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A STUDY OF CENTRAL STERILIZATION ROOM (CSR) CONTROL AND ORGANIZATION AT THE ACADEMY OF HEALTH SCIENCES ARMY FORT SAM HOUSTON TX W F LAWSON AUG 85

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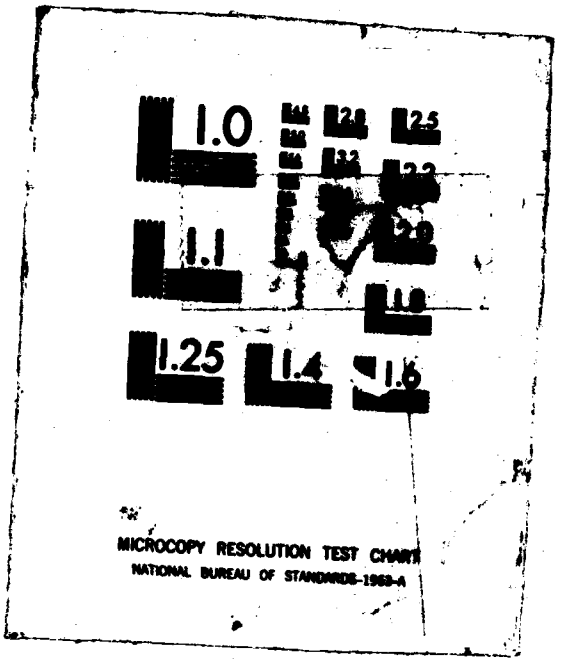
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A STUDY OF CENTRAL STERILIZATION ROOM (CSR) CONTROL AND ORGANIZATION AT THE NAVAL REGIONAL MEDICAL CENTER, OAKLAND, CALIFORNIA

A Problem Solving Project

Submitted to the Faculty of

Baylor University

In Partial Fulfillment of the

Requirements for the Degree

of

Master of Health Administration

By

Lieutenant Michael P. Lawson, MSC, USN

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With the rapid growth in Central Sterilization Room (CSR) Services, there has been an increase emphasis on the organization and management of the CSR. While the initial emphasis was placed on cost savings and Joint Commission on Accreditation of Hospitals standards, there is an increasing emphasis on management control and accountability within the CSR. This paper examines a CSR operation within a Naval Regional Medical Center, evaluates the current system and develops atternatives for improving management control and accountability. Keywords:

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I. INTRODUCTION

Transition of the CSR

Historically the functions of the Central Sterilization Room (CSR) have undergone considerable transition. The context of this statement can be illustrated by the many new titles given that function: Central Supply Room, Central Material Support Service, and Central Materials Management, to name a few. The basic intent of these functions remains the same; to provide operational materials and supplies to clinical elements of the hospital.

The Central Sterilization Room has come into its own in the last decade. For years it was the stepchild of the surgical service, a dressing room where the ladies' auxiliary met to fold sponges and to make bandages. During World War II the need emerged for Central Medical and Surgical Supply Services in hospitals, due to the development of various new products and their demand.[1]

The need for centralized services grew very rapidly but for the most part was devoid of any sound planning and organization. However, the last decade has seen considerable attention placed towards CSR, initially for its cost savings potential and later to upgrade the

standards more closely to meet Joint Commission on Accreditation of Hospitals standards[2] and surgical standards for infection control.

Other problems required attention with the increased use of disposables. Techniques for patient care and sterilization had to be redeveloped. Another major concern was management of the disposables waste including contaminated needles and syringes. Considerable efforts a decade ago were spent toward these areas.

The factors that have affected management's attention towards the central supply room (or that function) are many, but the growth in the use of disposable materials[3] and the increased cost of these items[4] seem to be the prevailing impetus. An extensive literature search has not produced data on the cumulative expense that the use of disposable materials has placed on health care costs. Studies tend to be on the cost-benefits of product lines such as disposable gloves, needles, linen, and so forth. The use of disposable materials did however provide health care managers a tool they previously did not have, a usage rate and cost per item that was not accurately available with reusable items. As widespread use of disposable goods took place, more and more cost information was available to health industry. With this new visi- bility, materials were given a much higher place among organizational concerns.

Like other areas of health care costs, supplies have increased

over 36 percent since 1975.[5] This is but a continuation of the trend in hospital products over the last twenty-five years. Although efforts have been waged at every aspect of hospital operations to keep costs down, the materials consumption has received added emphasis. This is due to the ability of the industry to see the flow of materials, identify costs, and place controls as required.

Controls on health care product consumption have manifested themselves in many ways. There have been increased efforts toward standardization of materials used in hospitals. Committees and purchasing personnel are continually seeking products that meet the needs of all users and reduce the demand for a variety of similar materials.

Other controls have seen increased management of inventory. Prior to the time of high disposable usage, little concern was given to inventory of materials in the health care setting. Now the rapid turnover of consumable goods has made control of stock a major concern of management as a tool to reduce costs of maintaining inventory and to restrain working capital expenses more effectively.

With inventory management came about another important area which further directed CSR activities, management of space. Each square foot of hospital space represents considerable expense to the facility. Unnecessary use represents waste of already tight money.

To reduce the shelf space in maintaining inventory, efforts have been directed to use the central sterilization room as both warehouse for operational supplies and for the sterilization function.

New emphasis on infection control also has brought about interest in CSR functions. During the early years when CSR was but a part of the surgical service, practices followed in the sterilizing function were under direct supervision of the operating room staff. All materials required sterilization and activities were somewhat simplified. The advent of new materials, prepacked sterile items, and more significantly, the transition of CSR from a clinical to a material support function, brought about new attention to the process materials would undergo before distribution. The volume of supplies, synthetic materials, greater use of mechanical and electronic equipment, all had significant impact on the requirements necessary to protect against contamination of health care supplies.

Numerous studies have been conducted on methods used in the sterile processing of goods. Standards have been rigidly established by the Joint Commission on Accreditation of Hospitals,[6] the Food and Drug Administration,[7] the American Hospital Association,[8] and others. Adherence to these many standards is important not only in maintaining accreditation but also because of legal implications of central service operation in conjunction with claims against the hospital.[9] These factors have focused concern on CSR and are part

of a continuing growth in management's attempts to refine the processes in sterilization and materials handling to meet with the highest level of efficiency.

Volumes could be written, and indeed have, on the multitude of new and innovative approaches to CSR operations. Distribution methodology has grown from a simple issue of a sack of supplies to an automated cart system, computerized charges, multihospital systems, co-ops, and on and on. It is perhaps beyond the scope of this study to set forth detailed description of these methods, but it is clear that the central service or sterilization function has been the focal point of much attention and efforts.

These many examples of the central sterilization room changes clearly illustrate the transition that has taken place over the last decades. These changes also lead to some conclusions that have emerged about CSR operations and point out that these functions must continually be evaluated to meet changing demands, regulations, and make the best use of health care resources.

The constant state of flux in which CSR activities exist also have been evidenced in many ways at the Naval Regional Medical Center, Oakland, California. These factors will be examined throughout this study, but, in brief gave impetus to the need to investigate CSR at the facility.

The Effects of Transition on CSR at NRMC

Central Sterilization Room activities at the Naval Regional Medical Center (NRMC), Oakland, California, have made major changes over the last twenty years. These have been prompted by several factors such as those illustrated in earlier discussions and some peculiar to the Navy and this activity.

The use of disposable materials has had similar impact on military hospitals as it did on civilian counterparts. The change to these materials was somewhat slower than other health care systems due to the increasingly high costs of disposable supplies which, unlike civilian hospitals, could not be passed directly to patients. The eventual results have been that disposable goods had a significant impact on budget requirements. As the use of disposables became "state of the art" in the health care industry, most expenses have been considered routine. There has been, however, some reluctance on the use of a few nursing care items such as bed pans, basins, and so forth. Since these are more or less optional items whose costs must be absorbed rather than passed on, their use has not been pursued in the same manner as surgical supplies. NRMC Oakland has taken advantage of disposable goods as they became available on federal supply schedules and have augmented disposable usage where required to meet professional demands.

The impact has been an exceptional flow of goods requiring ordering, storage, processing, and distribution. These functions are linked also to the need for inventory management, storage, and accountability for issues.

Facilities for CSR activities have also undergone a major transition at NRMC Oakland. In 1968 the hospital moved to a permanent structure, where before, activities were spread throughout as many as 135 World War II temporary buildings. Included in the design for the new hospital was a designated area for central sterilization on the first floor (basement), which would be connected to each of the nine floors by a cart elevator and a dumblift to the operating room suite on the fourth floor. The design of this facility was compatible with state of the art distribution methods for the period of design, 1965.[10,11] The age of disposables impacted greatly on the facility about the time the hospital opened its doors and immediately placed additional requirements on the space and personnel assigned.

Initially the Supply Service which supported CSR was located in the same building, but in 1977 a separate warehouse facility was opened several blocks from the core facility. Coupled with increased demand to CSR support, this situaton has created logistics problems in the maintenance of stock levels and other materials management problems.

Operational control of the CSR function has also seen some dynamic change in the last decade. In 1968, when CSR was moved into spaces of the new hospital, the Operating Room Branch of the Surgical Service was responsible for activities. At that time the majority of tasks were oriented to preparation of packs and their sterile processing. The impact of disposables was absorbed satisfactorily since the operating room was committed to the CSR function, material support was close, and accountability for goods distributed was not a major concern.

During the early 1970's a major program within the health care field was the intravenous additive mixture program of hospital pharmacies.[12] Concern for this clinical function plus the experience of pharmacists in managing drug inventories and distribution gave way to selection of hospital pharmacy control of the central service function. In 1973 the Hospital Pharmacy Service asssumed management of the CSR.

Since that time, materials management and distribution of supplies have become a greater concern of the administrative staff and the Navy's Bureau of Medicine and Surgery.[13] Recommendations were made that the CSR function be organized under the Supply Service "unless such constraints as facility configuration precludes more appropriate organization.[14]

The organization of CSR functions under the supply service is consistent with organizational patterns at most health care facilities.[15] Such an organizational change, Pharmacy to Supply Service, would seemingly be a simple administrative measure. The change, however, has posed several areas that have required evaluation to determine their feasibility and made necessary the modification of staffing criteria, facilities, and procedures prior to a time when implemen- tation can be approached.

In brief, the CSR function has undergone considerable transition in both its functions and its organizational control. Considerable attention has been directed towards reorganization of CSR activities from the current Pharmacy Service management to another, more appropriate, administrative service such as the Supply Service.

These factors have prompted this study into the organizational control of the central sterilization room at the Naval Regional Medical Center, Oakland, California. Investigation has led to research of the procedures and methods used in CSR and provide the content of this problem solving project.

Identification of the CSR Problem

The basic problem associated with this project has been to assess

the Central Sterilization Room functions at NRMC Oakland, to determine the feasibility for an organizational change, if needed, and to make recommendations for improvements in CSR activities that will lead to increased accountability of materials and support to clinical elements.

At the root of the basic problem of concern in this project is the extensive volume of supplies distributed to clinical services that require both a high degree of materials management and a significant amount of professional supervision. The aim is to evaluate critically the current system and to develop alternatives that would permit the management control and accountability for the items distributed through CSR yet maintain professional standards.

The approach used in this project has been to look at the basic need and feasibility of changes given the present physical plant, personnel, and professional requirements of CSR operations. Each of these were analyzed to determine what changes would be necessary to affect a move, the advantages and disadvantages of each, and the implementation required of various changes.

I

Footnotes

1. U. S. Department of Health, Education, and Welfare. Public Health Service. A manual for Hospital Central Services, DHEW Pubn. (HRA) 77-4013 (1977) p. 1

2. Joint Commission on Accreditation of Hospitals. Accreditation Manual for Hospitals, (JCAH-Chicago) 1979, p. 68-69

3. "Trends in Material's Management Point to Automation, Disposable", Hospital Topics, Vol. 49, No. 7, July 1971, p. 69

4. "8 Per Cent Inflation for Hospital Supplies", Hospital Purchasing Management, Vo. 3, No. 9, September 1978, p. 3

5. Ibid

6. Joint Commission on Accreditation of Hospitals, Accreditation Manual for Hospitals, (JCAH - Chicago) 1979

7. Carl W. Bruch, "Are Your Disposables Safe?", Hospitals, Vol. 45, No. 17, September 1, 1971, p. 138

8. American Hospital Association, Guidelines for the Hospital Central Service Department, AHA Booklet no. 2593 (Chicago, ILL 1978)

9. Ochsner, Harvey A., "Legal Implications of the C. S. Operation", Hospital Topics, Vol. 53, No. 4, July/August 1975, p. 14

10. Department of the Navy, Bureau of Yards and Docks, First Floor Architectural Plan, Drawing 1044330, Sheet 41, Naval Hospital, Oakland, CA June 9, 1965

11. E. L. Davis, "Central Service: A Department In Transition", Hospital Topics, Vol. 43, No. 2, August 1965, p. 131

12 W. M. Heller, "Future Role of the Hospital Pharmacist -- In Manufacturing and Control", American Journal of Hospital Pharmacists, Vol. 24, April 1967, p. 232

13. W. P. Arentzen, VADM MC USN, Surgeon General of the Navy to W. M. Lonergan, RADM MC USN, Commanding Officer, NRMC, Oakland, ltr. of 2 February 1978

14. W. P. Arentzen, VADM MC USN, Surgeon General of the Navy to W. M. Lonergan, RADM MC USN, Commanding Officer, NRMC, Oakland, ltr. of 10 May 1978

15. William Dale Meyer, "Reorganization of Central Service", Hospital Topics, Vol. 51, No. 6, June 1973, p. 69

II. RESEARCH OF THE CSR

Limitations, Obstacles, and Other Factors

Development of an optimum approach to CSR activities and organization had several major limitations that influenced the direction of this study. Central to these limitations was the fact that the Central Sterilization Room had evolved from over a decade of adaption to its existing spaces, staffing, and other environmental factors. This situation made difficult assessment of the functions that rightly should be accomplished by CSR and those that were actually being carried out. This identity is considered paramount in reorganization of central services.[1,2]

Plant facilities were another area that presented major obstacles to plan development. Not only are the CSR functions limited to spaces designed for that activity over fourteen years ago, but plans have been approved to transfer a portion of the space to the Pharmacy Service to support the unit dose system. The option of increasing the size of CSR to meet the demands of high disposable material storage and improved flow of traffic is not feasible given other space requirements and limited funds for construction projects. Limited funds also restricted anything more than minor renovations to meet professional requirements of CSR.

Ceiling points and military personnel necessary to accomplish CSR activities were to remain static in the final recommendation since the ability to continue support at even the current level is often questioned. The area of personnel support also presented additional limitations in the training and professional aspects of employment. These will be explored later in the study, but essentially directed a significant course of action to the CSR study.

Another factor that affected the research was the location of supply outside the main facility. The option, enjoyed in the design of new health care institutions, of having CSR a physical part of the materials support division could not be explored for its potential benefits.

A significant factor that directed much of the course of this project was the requirement that CSR spaces be periodically occupied and utilized by personnel other than CSR staff. This situation provided considerable problems in material security that will be discussed later in this study.

It should also be mentioned that any changes made to the operation of CSR had to meet with various professional criteria such as the Joint Commission on Accreditation of Hospitals and the American Hospital Association. Perhaps of even more difficulty in coping with effectively were regulations of the Civil Service Commission and those

of the Navy's supply system. The Civil Service Commission has strict classification guidelines and a federally imposed wage system that had to be worked with to meet the professional and compensation aspects of staffing. Navy regulations concerning materials handling and accountability had to be maintained regardless of the changes implemented in CSR.

Research Methodology

Research for the project was conducted using a variety of sources and methods. Initial investigation consisted of a review of existing reports, manuals, and procedural guides.[3,4,5,6] A comprehensive MEDLINE search was accomplished for CSR management and the literature reviewed as to relevance to the problems of concern in this study. Several significant writings referred to state of the art concepts for CSR management and consistently directed the management of CSR to the materials support function of the hospital. This concept served as a primary, but not conclusive, direction for the study. A review of literature also provided data concerning changing professional and materials management requirements.

Extensive on-site experience was gained through several days of exposure to both CSR , the Supply Service, and other related areas. This exposure provided an opportunity to see actual operations, assess the flow of materials, and have ready access to individuals who are

knowledgeable and experienced in all aspects of the activities. Particular support was gained from the Chief, Comptroller Service and the Chief, Supply Service in understanding materials requirements of the Navy, logistics and delivery information, and particular problems associated with support to health care activities.[7,8]

On-site visits were conducted at Letterman Army Medical Center, San Francisco and Kaiser Foundation Hospital, Walnut Creek, California. Additionally, telephone conversations were conducted with CSR and supply personnel at other hospitals, such as the Naval Regional Medical Center, Camp Pendleton, California, the National Naval Medical Center, Bethesda, Maryland, and Veterans Administration Hospital, Livermore, California. A variety of problems, alternatives, and information were provided in each of these conversations. These experiences furnished considerable background on central service operations and more importantly, insight into organizational control, accounting methods, and implementation of various methods of centralized material support.

Once all sources research material into the centeral sterilization functions and operations were assembled, it was possible to review the available data and make a preliminary list of problems to be approached and alternatives to be explored. Other aspects of the problem-solving process were reviewed as a guide to sound assessment of CSR and recommendations towards improvements, if needed, and implementation as required.

II

FOOTNOTES

1. William Dale Meyer, "Reorganization of Central Service", Hospital Topics, Vol. 51, No. 6, June 1973, p. 69

2. Barry Mosesman, "Steps in Planning A Central Processing Department", Hospital Progress, Vol. 52, No. 4, April 1971, p. 53

3. Report of Proposed Change of CSR from Pharmacy Service to Supply Service, NRMCOAKLAND LTR, 02:HHS:LW of 28 February 1978

4. International Association of Hospital Central Service Management, The Central Service Technician: Training and Supervision, (Chicago, ILL, Chissold Books, Inc., 1969)

5. Gary Lee Stanley, Hospital Central Supply Policy and Procedures Manual, (Herrin, IL, Hospital and Physician Consulting Service, Inc., 1977)

6. Procedure Manual - Central Sterilization Room, NRMC Oakland, 1978

7. S. F. Pron, LCDR MSC USN, discussions held during October 1978 - March 1979, NRMC Oakland, California

8. H. L. Crank, LT MSC USN, discussions held during October 1978 - March 1979, NRMC Oakland, California

III. CURRENT OPERATIONS

An Overview of CSR

Assessment of the CSR at NRMC, Oakland, requires thorough understanding of the present operations and the environment in which it exists. Although much of the introduction of the paper addresses generalized background of the factors that have affected CSR, a brief overview is essential in identifying specific problem areas as they are discussed throughout the remainder of this paper.

Facilities. The CSR at NRMC, Oakland, is located on the first floor (basement) of a large nine-story hospital/medical center. The hospital structure was designed in 1965 as a 597-bed acute care facility and is currently operating with 349 beds. The core facility is located on the grounds of the Naval Regional Medical Center (NRMC), Oakland, California. The center operates as an autonomous facility in that it is a free-standing activity with the nearest military base over 12 miles away.

The first through fourth floors of the facility house outpatient, administrative, and clinical support elements within the command. Floors five through nine are inpatient wards separated by type of clinical service to the greatest extent possible.

The operating room suite with ten operating rooms is located on the fourth floor and has a direct access to CSR via a dumblift and a cart elevator. The emergency room, obstetrics delivery suite, and other areas needing CSR support require manual distribution to their various locations.

The operating room suite maintains a preparation area to clean and assemble surgical packs used in the main operating rooms. Some equipment, small autoclaves and washers, is available to augment the requirements as needed. Additional sterilization capabilities are also maintained in other clinics such as dental, ENT, and the emergency room.

The floor plan of CSR is provided as Appendix 1. The facility provides 5,280 square feet of operational space. Structural divisions by design include 1,040 square feet for receiving and cleaning items of reusuable materials, 1,700 square feet for materials storage, and 1,800 square feet for processing materials. The facility has 4 large autoclaves, a large ethylene oxide gas sterilizer, ultrasonic washing stations, cart washing machine, and other basic items required in CSR operations.

Automated distribution equipment includes a dumblift direct to the operating room suite and a cart elevator system, one for contaminated carts, another for those carrying clean or sterile items.

The CSR also maintains a "pass-thru" window for distribution of nonroutine issues and other customer services.

As previously indicated, CSR is located on the first floor (basement) of the hospital. The receiving dock and distribution area for goods received at the main facility is on the third floor. Materials received for CSR use must be transferred by elevator to the first floor spaces.

Personnel. Currently there are nine employees assigned on a full-time basis to CSR activities. A tenth individual, a Medical Service Corps pharmacist, devotes a portion of available time to act as liaison with other departments and provide overall supervision for the Chief of the Pharmacy Service.

To preclude the use of a pharmacist manager of CSR functions, a position was established in April 1978 for a (GS-9) supervisory nurse. The position description and its requirements are detailed in Appendix 2. The use of a full-time position was justified on the basis of improved technical and professional supervision and to maintain continuity in the management of CSR.

Two other civilian positions involve providing limited supervision to CSR activities. One, a GS-5 medical aide, exists because of

the need for an individual with extensive experience in CSR operations particularly in knowledge of professional materials. A second senior medical aide, a GS-4 position, exists in the CSR staff because of professional experience required to periodically perform all phases of CSR activities without supervision after hours.

Five positions in CSR are GS-3's and GS-2's entry level medical aides. A position description and requirements of these positions are detailed in Appendix 2.

Additional assigned personnel in CSR are junior enlisted hospital corpsmen. Although two billets exist, only one has been staffed due to the availability of military personnel.

Training of CSR employees has been entirely on-the-job experience. Occasional in-service programs are provided to explain new procedures or to discuss various aspects of processing. Although formal training of central sterilizing technicians is available in civilian colleges, there is no recognition within the civil service system for this education.

Internal Operations. A complete flow of materials is provided in Appendix 3. In brief, disposable and new materials are received in CSR after a supply request has been submitted for those items. The goods are checked and placed in appropriate storage areas. Daily, the

clinical services (wards, clinics, special departments) submit requests (Exhibit 1) to CSR for items which they require. The request includes both disposable items and reusable kits required for various procedures. Desired items are pulled from stock and placed on carts to be delivered, the same day, to the requesting service.

Each morning a CSR employee picks up carts with contaminated materials and returns them to CSR via the elevator cart designated for that purpose. Materials are received in the wash area where they are cleaned and sterilized prior to transfer to the sterile preparation area for redistribution.

Integrating with the CSR are sterile linen preparation and some intravenous additive distribution. All other linen is distributed by the hospital laundry, and other pharmacy services are provided elsewhere in the pharmacy. Some items of medical equipment are distributed through CSR, however, often other areas such as medical repair and inhalation therapy distribute equipment.

Currently, all phases of CSR activities can be accomplished by any employee; there has been no formal separation of functions. Informally, some individuals perform certain activities, such as pick up of carts or preparation of surgical kits on a fairly functional basis, but no definitive assignments have been made.

CENTRAL SUPPLY REQUISITION
12ND NRMC 6700/1 (REV 10-76)

1. [illegible] are ordered by case
2. [illegible] and [illegible]
3. Send original to C S R [illegible]
4. [illegible] for additions
5. Order for 24 hours only

WARD	DATE	SIGNATURE OF WARD NURSE	RECEIVED BY

ITEM	AMT	ITEM	AMT	ITEM	AMT	ITEM	AMT
NURSERY		MEDICINE GLASS, STERILE		TRACHEOTOMY TU W/OUT CUFF		I V VOLUTROL SET 60ml	
INFANT FEEDING TU 5FR		MEDICINE DROPPERS STERILE		SIZE 00		CONTINU FLO ADMINISTRATION SET	
UMBILICAL CATHETER 5FR		MICHEL CLIPS, STERILE		0		BURETROL	
SUBDURAL TRAY		STAPLE REMOVER, AUTO		1		GAUZE, MEDICATED	
CRIB SHEETS		COLOSTOMY CARE ITEMS		2		GELFOAM 20 x 60 x 7 mm	
BABY GOWNS		KARAYA SEAL BAG		3		ADAPTIC	
BABY SHIRTS		3" DRAINABLE		TRACHEOTOMY TU W/CUFF		AQUAFLO	
BABY BLANKET		2" DRAINABLE		SIZE 4		IODOFORM ¼" x 5 YD	
BABY DIAPERS		1½" DRAINABLE		5		NU GAUZE PACKING ½" x 5 YD	
TRAYS, REUSABLE		HOLLISTER STOMA BAG		5		PETROLATUM	
ASPIRATION/LOCAL		ADHESIVE STOMA BAG		7		½" x 72"	
BONE MARROW		OSTOMY IRRIGATION BAG		8		3" x 18"	
CUTDOWN/EMER SUTURE		OSTOMY BELTS		9		5" x 9" (XEROFORM)	
KIDNEY LIVER BIOPSY		SMALL		10		SCARLET RED 5" x 9"	
MENGHINI NEEDLE		MEDIUM		STERI STRIP ¼" x 4"		WITCH HAZEL (TUCKS)	
14 Ga		LARGE		STERI STRIP [illegible] x 3"		ARM BOARDS	
16 Ga		LOOP STARTER SET		SUTURE MATERIAL		ARM SLING MUSLIN	
MINOR SUTURE (E R ONLY)		LOOP BRIDGES		CHROMIC		BANDAGE ACE	
PARA/THORACENTESIS CVP		DRAINABLE BAG CLAMPS		2-0 [illegible] T P		2"	
TRACHEOTOMY		MEDICAL ADHESIVE		3-0 [illegible] T P		3"	
TRAYS DISPOSABLE		ADHESIVE REMOVER		4-0 3/8" R C (ce 2)		4"	
CATHETER, URETHRAL		STOMAHESIVE		4-0 3/8" R C (ce 4)		6"	
CATHETER FOLEY		KARAYA BLANKETS STERILE		DEXON		BANDAGE, Medicopaste Unnaboot	
LUMBAR PUNCTURE, ADULT		23 x 23 cm		4-0 3/8 R C (ce 2)		BANDAGE COBAN	
LUMBAR PUNCTURE INFANT		10 x 15 cm		5-0 3/8 R C (ce 2)		3"	
PERITONEAL DIALYSIS		5 x 8 cm		NYLON		4"	
TROCATH TRAY		4 x 4 cm		3-0 3/8 R C (ce 4)		BANDAGE RED RUBBER ACE	
ADMIN SET W/DRAIN TU		DRAINAGE SET STERILE		4-0 3/8" C (ce 4)		3"	
DRAINAGE BAG		4 cm OPENING		4-0 3/8" R C (ce 4)		4"	
Y SITE 103"		9 cm OPENING		5-0 3/8 R C (ce 2)		PADS	
CATHETER W TUBE		11.5 cm OPENING		5-0 3/8 R C (ce 4)		ABD 8 x 7½ STERILE	
BLADDER IRRIGATION SET		DRAINAGE SET W ADHESIVE PATCH		6-0 3/8 R C (ce 2)		ABD 8 x 10 UNSTERILE	
EXCHANGE TRANSFUSION		SMALL		5-0 3/8" [illegible] (ce 1)		ABD 12 x 16 UNSTERILE	
TRACHEOTOMY CLEANING		LARGE		SILK		TELFA 3 x 4 STERILE	
CATHETER CARE KIT		ACCESS CAPS		2-0 30" NO NEEDLE		EYE PADS	
URINE SPECIMEN CUP STERILE		5 cm		2-0 18" NO NEEDLE		RESTON FOAM PADS	
URINE DRAIN BAG CLOSED		11.5 cm		3-0 18" NO NEEDLE		GAUZE ROLLER	
URI METER		SPINAL MANOMETER		3-0 3/8 R C		1"	
URINE CALCULLI STRAINER		TONGUE DEPRESSOR STERILE (2's)		4-0 3/8 R C		2"	
URINE COLLECTION PEDS 24 HR		SAFETY PINS STERILE		5-0 [illegible] T P		3"	
URINE COLLECTION BAG NEWBORN		CULTURE TUBE STERILE		5-0 3/8" R C (ce 2)		4"	
URINE COLLECTION BAG PEDS		CONNECTORS STERILE		5-0 3/8" R C (ce 4)		GAUZE UNSTERILE	
URIDOME (EXTERNAL CATHETER)		STRAIGHT		4-0 3/8" R C (ce 4)		2 x 2	
URINE LEG BAG MEDIUM		"T"		VAGINAL SWABS STERILE		4 x 4	
URINE LEG BAG LARGE		"Y"		VAGINAL SWABS UNSTERILE		4 x 8	
URINE DRAIN TUBING		COTTON BALLS STERILE		PAPCYTE SCRAPPER		GAUZE STERILE	
APPLICATORS UNSTERILE 100's		ABSORBENT COTTON		PERI PADS STERILE		2 x 2	
APPLICATORS STERILE 2's		SCRUB BRUSH, STERILE		PERI-PADS, UNSTERILE		4 x 4 HOSP PACK	
BANDAIDS		BABY BULB STERILE		SWABS RECTAL UNSTERILE		4 x 4	
ALCOHOL SWABS		KNIFE BLADES, STERILE		NASOPHARYNGEAL SWABS		4 x 8	
BURN PACK STERILE DISP		#10		SCROTAL SUPPORT AMPS		SUTURE REMOVAL KIT	
SPINAL SHEETS STERILE		#11		MEDIUM		GLOVES	
BEAKER STERILE 250ml		#15		LARGE		LATEX (RUBBER)	
FIELD TOWEL, STERILE		DRAIN PENROSE		X LARGE		EXAMINING UNSTERILE	
BEAKER STERILE 400ml		3/8" x 12"		ENEMA SET DISP		6½ STERILE PAIR	
BASIN, STERILE SOLUTION		5/8" x 12"		PREP RAZORS DISP		7 STERILE PAIR	
SHEETS STERILE		7/8" x 12"		CHEST BOTTLE		7½ STERILE PAIR	
PILLOWCASES STERILE		PICK UP FORCEPS/HOLDER		BLOW BOTTLES		8 STERILE PAIR	
GOWN, GREEN, STERILE		FINGER COTS		GAVAGE SET		8½ STERILE PAIR	
DRESSING SET STERILE		AIRWAYS		CHEST BOT DRAIN TU DISP		VINYL (PLASTIC)	
ORTHOGRAM PACKS (X RAY)		ADULT		DRESSING KLING (VAG PK)		MEDIUM, STERILE PAIR	
MORGUE PACK DISP		PEDS		DRESSING KERLEX		LARGE STERILE PAIR	
WET ONES		SHILEY DISP TRACH TU		BLOOD VOLUTROL (PED DRIP)		SINGLE STERILE	
TONGUE DEPRESSOR STERILE		PED 00		BLOOD RECIPIENT SET		EXAMINING UNSTERILE	
SPUTUM SPECIMEN BOT STERILE		0		C V P INFUSOR 14 Ga		HYPOALLER EUDERMIC	
SPECIMEN TRAP		1		C V P MONITOR		7 STERILE PAIR	
ASEPTO SYRINGE		2		I V EXTENSION (VENOTUBE)		8 STERILE PAIR	
1 OZ		3		I V EXTENSION (TWINSITE)			
3 OZ		ADULT 4		BLOOD FILTERS			
		5		STOPCOCK 3 WAY DISP			
		6		STOPCOCK 3 WAY + EXT			

Exhibit 1.

Problem Assessment

Many areas of change in CSR activities were discussed during the introduction of this paper. The increased flow of materials, changes in organization control, and various economic and regulatory influences have brought about the need for assessment of their impact and corrective measures as necessary.

The principal impetus for review of CSR is that of materials management. The annual budget for materials dispensed from CSR was over $463,000 for fiscal year 1978 and programmed at $420,000 for fiscal year 1979. These materials are drawn from NRMC's Supply Service. All issues to CSR are charged to the CSR Program Manager for accounting purposes. Items distributed through CSR are then sent to various other services or program managers. At present there is no accounting mechanism to provide a charge system to those receiving materials. The system therefore does not provide any mode of identification of major users and the value of goods received. The lack of control and accountability for supplies provides little incentive to monitor the consumption of materials and brings about a considerable amount of hoarding.

The problem of accountability was not a significant factor when disposable supply usage was minimal. The continued growth, as discussed in the introduction, has prompted that some form of charging

and control system be developed to monitor and better assign costs accordingly.

Personnel assigned to CSR have also been the recipients of changes in CSR activities. A decade ago civilian staffing of the sterilization room was half of its present complement. Additional requirements were met with available military personnel as needed. Reduced manning levels have precluded this situation in recent years and all designated billets were changed to civil service. Although the present allowance of civilian positions is satisfactory to accomplish the functions of CSR, there have been severe problems in maintaining a full staff.

As indicated earlier, there is currently no job series for central sterilization technicians within the Federal civil service system. The lack of professional identity to the positions has demonstrated itself in several ways. First, without a professional entry level of training or experience, these positions are graded at the general service level 2 (GS-2). The jobs are therefore considered entry level and require no prior job experience. The medical aide job series does not provide for progression to levels above GS-3 except in special categories such as the two unsupervised workers presently employed. The lack of job enrichment and advancement has created a high turnover in the entry level positions.

Economic factors have also influenced a high turnover of personnel. Certainly the low entry level positions and restricted advancement have prompted internal changes to higher civil service ratings. Another aspect of this problem is related to the locally negotiated wage rate of blue collar employees. In the San Francisco - Oakland Bay area, the lowest level of pay for wage-grade employees is above that of even the higher GS-4 and GS-5 pay levels. Exhibit 2 demonstrates this wide variance. Historically, many employees in CSR have transferred to less professional but higher paying jobs in warehouse operations and the janitorial service.

The prevailing wage in this area for individuals experienced in central sterilization techniques is also much higher than that offered by the medical aide positions. This situation not only restricts the availability of qualified personnel for hire but acts as a significant drain on personnel trained at this facility.

Previous attempts to correct the discrepancy in wages have been approached. However, due to a relatively small amount of professional skills required in the CSR functions, no corrective action was taken. A copy of the wage classification survey is provided in Appendix 2.

It is the trend in the civilian sector that professional technical personnel are essential to CSR.[1] This is also apparent in many schools providing professional training and state certification

COMPARISON OF WAGE GRADE & GENERAL SERVICE
SALARY (FISCAL YEAR 1979)

All steps shown for 1st (starting) level hourly rates

Wage Grade		General Service	
WG-1	5.83	GS-2	3.57
WG-2	6.07	GS-3	4.02
WG-3	6.31	GS-4	4.51
WG-4	6.56	GS-5	5.05
WG-5	6.80	GS-6	5.63
		GS-7	6.26
		GS-8	6.93
		GS-9	7.65

*Work Leader	
WL-1	6.41
WL-2	6.68
WL-3	6.95
WL-4	7.21
WL-5	7.48

*Use for individuals performing wage grade functions but approximately 20% as Work Supervisor

Exhibit 2.

of central sterilization technicians.[2] The high turnover in the CSR at NRMC is counter to efforts in maintaining a good level of professional expertise. Efforts to correct this situation are a significant portion of this study.

The area of infection control also directed other areas of this study to meet both facility requirements of CSR and insure professional criteria is incorporated into any modifications of the present system. Although there exists no significant problem areas in infection control procedures in CSR at this time, changeover from a clinically oriented department, the Pharmacy Service, to some other department such as Supply Service may jeopardize the situation if not adequately addressed.

Footnotes

1. Mary E. Reilly, "Central Service", Hospital Topics, Vol. 56, No. 6, Nov/Dec 1978, p. 22

2. Ibid.

IV. FUTURE IMPACTS

No consideration could be given to reorganization or modification of CSR activities without proper assessment of programmed changes and other evolving factors that may have bearing on the department.

In regard to personnel, there will be a continuing disparity between federally controlled civil service wages, the locally negotiated blue collar (wage grade) federal employees and local prevailing wages. The true impact of this situation on CSR is difficult to assess, but continued high turnover is likely because of the low pay of the entry level positions.

Perhaps of greater impact in the personnel picture is the growth of certification programs for central sterilization technicians. Like the evolution of other ancillary health fields, this process becomes an industry standard. It is not unlikely that some certification or formal training be required of personnel in CSR in order to meet some imposed standards. Efforts by federal activities to upgrade the CSR grades within the Civil Service Commission have failed on several occasions. Hospitals in the Veterans Administration, Public Health Service, and Department of Defense have all made some efforts to win recognition for this specialty but failed to meet the criteria of wage surveys. The trend will be for skilled CSR technicians to seek work outside the federal government, such as NRMC, Oakland, and those

gaining experience will soon move on to higher paying jobs with greater professional recognition.

Facilities at the Naval Regional Medical Center, Oakland are not programmed for any significant expansion or modifications at this time. Clinical programs, although continually keeping up with state of the art technology, are not involved in any changes that have impact on CSR. Continued emphasis on infection control and professional aspects of sterilization may place additional requirements on CSR. However, it should not impact significantly on space and equipment requirements beyond what currently exists.

A major concern in future CSR programs is that of accountability for goods and materials distributed. Military health care facilities are facing pending implementation of a new uniform chart of accounts to standardize accounting systems and provide a basis for comparison between activities.[1] Of the many factors that need to be detailed in the system is an identification of the cost of supplies by service.[2] Although current methods used by this facility, and other government facilities contacted during this project, account for supplies issued from stock fund and other major inventories, none of the activities utilize a system to accurately charge user departments for issues from CSR, central material services, or similar functions.

The Uniform Chart of Accounts, at least at military health care

facilities, demand that some method of measuring supplies issued to services be developed. Although a number of cost allocation methods are available, these methods do not accurately measure the cost of supplies.[3] The increasing emphasis to determine costs of activities in federal facilities would be well met with a method to accurately charge materials to various services.

Additionally, all efforts to improve the materials management and control of supplies at federal hospitals will help fend off the continued public accusations and demands for improvements.[4]

The concept of greater control has even more significant bearing on continued viability of programs within NRMC. If annual budgets fail to keep up with inflation, future funds available for operations will be less and less. Adequate information available to users of CSR support will strongly help them monitor consumption and help better manage funds for operations at the department level.

IV.

Footnotes

1. Department of Defense, Uniform Chart of Accounts for Military Medical Treatment Facilities, Test Draft with changes, 1 August 1977

2. Ibid, p. 2-35

3. Cost Finding and Rate Setting for Hospitals, (American Hospital Association = Chicago) 1968

4. Health Care Financing Administration, Manual for the System of Hospital Uniform Reporting, Test Draft, 1978

V. ALTERNATIVES EXPLORED

In approaching various alternatives, there is some difficulty in identifying the proper mode of attack. Isolation of alternatives directed solely at personnel, materials management, and so forth might have negligible effects on the primary problems already discussed. On the other hand, an entire systems approach, although desirable, is not only difficult to develop, but meaningful implementation may face near impossible obstacles. A realistic approach was taken to determine alternatives as interrelated to other areas (personnel changes required for support of material changes, and so forth). These same alternatives would also be explored on their own advantages and disadvantages.

Materials Management

Materials management is perhaps the most significant aspect of this project. The need to adequately control the distribution of supplies from CSR has tremendous impact. Annually over $460,000 in materials are distributed through CSR activities without any significant charging procedures. A decade ago, when the value of these materials was minimal and forces to account for expenses by some cost center method were negligible, there was no demand for this control.

Additionally, the existing inventory of supplies in CSR is in

excess of $50,000. Again this represents an increase over the last decade and also represents a requirement for control.

To better manage these materials and provide expense data to users of CSR services, the following alternatives have been developed.

1. Manual costing of materials distributed through CSR. The procedure would consist of marking of the quantity of items issued to each program manager, computing the cost of each issue based on a predetermined cost per item, and maintaining cummulative totals for reporting purposes. This method is practical in providing users and administration the cost data of supplies they draw. Also the method could be used to develop operating targets for specific services as a means to control consumption of goods.

Manual methods are easy to implement and require only the addition of a function and corresponding position of a clerk to total each issue. Liaison with Supply Service and minor calculations could develop cost per unit of issue for items drawn from larger standard packages.

Integration of this cost information with existing cost reports used by program managers is the greatest drawback of this system. The manual system also provides considerable concern for its accuracy and its outdated mode of providing information easily available through

automated procedures.

Existing resources available to CSR also do not permit assignment of an individual for the extensive time necessary to cost out issues. This unmet need would require an additional billet to accomplish the function.

It is obvious that manual costing is directed at only one of the concerns of this project; information concerning the cost of CSR issues. A major void in this alternative is the fact that there is no relation to this function and the management of inventory in CSR.

Other problems not addressed in this alternative itself are the personnel adjustments called for in this study and increased management of the materials support function by an administrative service. Although potential exists to implement these efforts in conjunction with other alternatives, the fragmented approach to the problem may jeopardize overall improvement.

2. A second alternative to improved materials management in CSR is automating the recording of issues from stock. Unit prices would have to be developed as in the manual system, however, automated issue records could facilitate inventory management and significantly add to accuracy of cost reports.

The use of issue cards such as electronic accounting machine (EAM) or "IBM" cards would necessitate closer alignment with the supply service for management. This move would be required to coordinate accumulation of issues to larger standard order quantities and initiate reorder of CSR material. Data processing support would also be required to accumulate information necessary and provide reports necessary for users of CSR and the Supply Service.

3. A third alternative available represents a refinement of the automated approach to CSR materials management. As opposed to an in-house program of issues and records, a formal accounting system for issues could be developed and fully integrated with present fiscal and supply systems. The system, currently in use at Naval Supply Centers and other major supply points, accounts for issues by smallest unit of issue and accumulates to inventory and other management reports. This system requires that CSR be managed as a function of the Supply Service for control and supervision, necessary because of the high level of support required.

The major advantage of the system is that inventories can be included as part of the stock fund account. (Stock funds are separately funded supply levels to protect operating funds to be tied up in inventory accounts.) The stock fund concept offers a variety of advantages and can be implemented in several modes. In addition to not requiring command operating funds to manage CSR inventory, the

obvious benefit exists that material losses can be charged to stock fund accounts. In conjunction with direct charging of issues to CSR users vice intermediate operating medical supply stocks, this method would provide accurate accounting information.

Stock fund operating inventories can be implemented in several ways: retail service, ready issue, and shop stores. Research into these modes indicate that the needs of this command could be best met by a shop store concept. [2]

Implementation of this method of dispensing materials from CSR has a certain high degree of difficulty because of data processing, supply service, and other involved areas that need coordination, but the potential for advantage and benefits to the command are equally rewarding. Certainly the immediate need for control and accountability for the over $400,000 worth of materials issued each year would be achieved. An even greater benefit exists in the large one-time benefit gained from the transfer and reimbursement for the value of present inventory, approximately $50,000. Issues from that stock would then be paid for from command operating funds when drawn. Additional continuing benefit is stock fund support of inventory losses and expired materials loss especially significant in this era of presterilized disposable goods.

The stock fund concept also carries increased personnel concerns

and organizational requirements due to the transfer to the Supply Service.

CSR Personnel Support

Major problems have been identified in the area of staffing personnel concerns for CSR. Dominant among these is the high turnover of personnel predicated on the low pay level of the positions assigned. Some recognition is also given to the professional skills required by personnel actively involved in the processing of sterile material. To address these problems, especially in light of materials management requirements, the following alternatives are offered:

1. As with most situations, there exists one alternative, to do nothing. Personnel and staffing criteria of CSR operations could be retained as they are now. A certain level of turnover could be anticipated and supported by additional efforts by the Civilian Personnel Service. Historically, the response to entry level positions has been poor and lengthy. Vacancies are not uncommon. Assignment of additional military personnel is another possibility during these periods; however, their availability is not certain.

Retention of current personnel profile jeopardizes the success of other alternatives in material management. Implementation of efforts to automate issue records, and even more critical, to stock fund

management depends greatly on experienced material handlers.

2. The alternative exists also to press for some exception in the position classification of central sterilization technicians. Pending certification and formal recognition of this specialty may provide the drive to upgrade these employees equal to competitive positions in the civilian sector. Given the experience of other federal facilities already discussed, the near probability of this is unlikely.

3. Another alternative exists, especially if Supply Service is charged with CSR, to convert all or a portion of the general service (GS) employees to wage grade (WG) categories. Wages for these positions are locally competitive and offer the potential to retain employees.

Although this alternative would substantially increase civilian payroll, the continuity would mean a higher degree of service and provide the avenue for improved distribution functions. A change to wage grade positions is demanded in the case of Supply Service control of CSR. Current positions already exist within that service for laborers who perform essentially the same activity of filling and issuing supply materials.

If certain sterile processing skills are identified within CSR,

the possibility exists to retain some medical aide positions for that purpose. The presence of a nurse supervisor would provide the training and skills necessary to oversee the activities.

Facility Requirements

Given the constraints on space and funds available to effect some solution to CSR problems, there are but a few alternatives possible. Most significant is the need to upgrade the existing interior to meet security and infection control standards. Included in these requirements are the need to improve the isolation of sterile processing areas and to increase security to supply areas (essential in the case of stock fund operations).

Several methods of achieving these goals were explored during the course of this project.

Protection of sterile processing areas from free flow contamination can be addressed with two alternatives, full wall partitions or glass wall enclosures. Due to space limitations and apparent compactness of existing areas, the glass partition is highly desirable to provide measures required to reduce air flow yet retain as much openness as possible.

Security of storage shelves and spaces does not require any

efforts other than those to meet security requirements if a stock fund system is utilized. Any degree of lockable enclosure is satisfactory; such as chain link fencing or steel expanding gates. Again, due to the closeness of existing spaces, whatever option retains the greatest open floor space is desirable. Expanding steel gates or collapsible doors are especially well suited to this cause. They provide adequate security yet can be moved almost entirely out of the way to facilitate easier movement of supply carts during activities.

Meeting professional and security requirements of the CSR does present minor facility adjustments necessary to meet air flow ventilation requirements.[3] Other minor alterations are desirable if stock fund operations are implemented; such as removal of inoperable cart track and rails to facilitate free movement of pallets in and out of supply spaces. Current receipt of supplies involves offloading to smaller carts to enter CSR spaces.

V.

Footnotes

1. Central Sterilization Room Program, Estimate of Financial Requirements, Operation and Maintenance, for Fiscal Year 1979

2. Department of the Navy, Navy Fleet Materials Support Office, FMSO Instruction 4400.12H, Management of Navy Supply Systems Materials, 28 APR 1877, p. V-1

3. Veterans Administration, A Study of Design Criteria and Systems for Air Conditioning Existing in VA Hospitals, Research Study Report, 1971

VI. RECOMMENDATIONS

The principle purpose of this study was to determine if a need existed to change the organization structure supporting the central sterilization function. If a modification to the current system was warranted, the most appropriate means of achieving CSR management and efficiency was to be determined.

Based on these historical changes in materials and professional requirements that have impacted upon CSR, there is a strong need for additional efforts to upgrade the methods for distribution of supplies and equipment from CSR. Additionally, an excessive level personnel turnover indicates a need to reevaluate the staffing profiles required to accomplish various activities while maintaining both professional and support functions.

Consideration of all the alternatives presented, in conjunction with limitations and obstacles in this study, has helped formulate the following recommendations in the form of an overall CSR systems improvement.

Recommendation 1. It is recommended that organizational control and support of CSR be transferred to the Supply Service. The increasing flow of disposable materials dispensed through CSR has changed the primary purpose of the central sterilization room to that

of a central supply or materials function. Even the current distribution method of CSR materials, without formalized accounting records, requires that professional materials management support be functionally assigned to meet increased inventory and distribution demands.

Supply Service management is even more critical with more sophisticated methods of issuing and recording the flow of materials. Supply Service management, although not formally demanded, is also essential to meet the stock fund control requirements, if implemented, necessary to integrate with existing operations.

Realignment of the CSR function also provides the in-house support of other bulk stores such as pharmacy stocks and subsistence items. Efforts to successfully implement materials management concepts in CSR provides the same system that could be used to make food service and pharmacy issues under similar inventory management.

Recommendation 2. It is recommended that sufficient quantity of the present CSR positions be restructured to meet requirements for wage grade (WG) versus general service (GS) positions. Assignment of these personnel would be to those CSR activities involved with the issuing and distribution of materials. This transfer of classification would greatly improve the salary of these jobs to that of the competitive civilian market and local blue collar workers. As part of

the Supply Service this change would also be required because of the need to align CSR positions in materials handling to the existing wage grade positions in the Supply Service.

Recommendation 3. The need to retain professional standards in the processing of sterile materials requires retention of some positions to accomplish those activities. These few positions require experience in the preparation of sterile surgical kits and knowledge in the operation of autoclaves. Additional requirements for competent sterile processing personnel exist because of the continuing supervision provided to operating room technicians using CSR spaces after hours. Also, the sterile processing technicians will be required to work evenings and weekends without supervision to meet workload requirements and prepare materials for distribution. The high level of independent job performance is obvious.

Separation of the sterile processing technicians from supply personnel will set the stage for a more formal separation between these functions within the CSR structure. Better delineation of duties is possible with this organization and should provide improved performance in both the supply function and in the processing function because of more concentrated efforts.

Recommendation 4. Transfer of CSR stocks to the stock fund management. This transfer of stocks offers considerable advantages to

NRMC, Oakland, and should greatly improve the present system of inventory management, supply operations, and cost accounting of materials distributed by CSR. Principal advantage of stock fund management is that the concept provides a revolving fund for inventory management rather than tying excessive amounts of operating funds to support inventory.

Assumption of the current inventory by a stock fund system would return the current inventory value to the command's operating funds for this fiscal year. Over time, stock fund management also means the shrinkage and materials loss traditionally absorbed by the command would be borne by the Navy stock fund system. Based on average shrinkage experience by most inventory operations,[1] this would mean an annual savings of over $12,000 with the current inventory and proportinate gains with inflation over the coming years.

Although initially the change to stock fund management would necessitate additional data processing requirements to develop a system to account for issues from CSR, this same system would provide both inventory and cost data required. CSR stock levels could automatically be programmed for reorder points and reduce management of these items. Additionally, long range potential of stock fund management of operating supplies establishes a program that can be applied immediately to pharmacy stores and subsistence items located in the main hospital.

Recommendation 5. It is recommended that minor facility projects be undertaken to provide for security of stock fund supplies, isolation of sterile preparation area, and improved access to CSR spaces. These items were discussed during the review of the alternatives with regard to their requirements. Limited access and security to stock fund storage is easily accomplished by an expanding metal gate or door which opens up to permit easy flow of traffic and an appearance of spaciousness during working hours.

Isolation of sterile preparation is required to meet current standards calling for physical separation of storage, contaminated work areas, and sterile processing areas.[2,3]

Improved entry to CSR spaces is not essential; however, such alterations as removal of nonfunctional railings and increasing the size of the main doorway would facilitate the access of supply pallets and eliminate the need of off-load to smaller carts. With the concept of increased use of CSR as a true central supply area for operating supplies to the hospital, this action is even more justified to improve efficiency.

VI.

Footnotes

1. Veterans Administration, A Study of Design Criteria and Systems for Air Conditioning Existing in VA Hospitals, Research Study Report 1971

2. Department of Health, Education and Welfare, A Manual for Hospital Central Services, Pubn. No. 77-4013 (1977), p. 11

3. Joint Commission on Accreditation of Hospitals, Accreditation Manual for Hospitals, (JCAH - Chicago, IL), 1979, p. 69

VII. IMPLEMENTATION

The course towards Supply Service Management of the central sterilization functions at NRMC, Oakland, seems well defined by the direction taken in both materials and professional activities at this command and other health care activities. Because of the complexity of some aspects of supply management, primarily in the stock fund system and data processing requirements to support it, detailed implementation would be beyond the scope of this project. It is, however, important to provide some tenor to the recommendations where preliminary steps were made to effect changes in CSR.

The initial step towards implementing the Supply Service control of CSR is a firm commitment to the project by concerned parties. Certainly the Bureau of Medicine and Surgery has supported these efforts,[1] and the civilian sector has supported materials management control of CSR for some time.

The change of CSR to the Supply Service involves interaction between the Pharmacy, Civilian Personnel, Data Processing, Comptroller, and of course the Supply Service. Both Data Processing and Civilian Personnel should have definitive instructions concerning their support of the change and priorities established regarding their specific actions. Without this positive approach, the Supply Service management of CSR may become but an administrative change without

positive results.

Preliminary position descriptions have been prepared for the wage grade positions in CSR (Appendix 2). Although final classification has not been made, they meet the criteria for wage grade and once individuals for those functions are designated, rapid action by the Civilian Personnel Office could affect these changes.

The financial impact of the personnel changes are computed in Appendix 2. Current fiscal budgeting has not provided for the increase indicated; however, the reimbursement of this command's operating budget for the value of existing CSR inventory would well provide for the additional expense. Subsequent fiscal years could be budgeted accordingly to support payroll requirements of CSR. Although specific data are not available, the offset of inventory and materials loss heretofore borne by the command would greatly negate the expense. The imposed materials controls and expense data available for CSR users may produce savings far in excess of the costs of expenses associated with this program. Again, actual cost benefit data are not available, but, the savings could be projected at the same level of savings affected by NRMC's program manager concept, approximately 10 percent per year, with the flow of over $450,000 worth of goods through CSR at this savings would have significant benefit to the command.

Organizational Structure

The exact organizational structure of the new central supply service cannot be detailed because it is strongly felt that the chief of the Supply Service should have the final designation. It is, however, important that an outline of the structure be addressed.

Exhibit 3 shows the structure of the new organization which permits a great deal of flexibility once implemented.

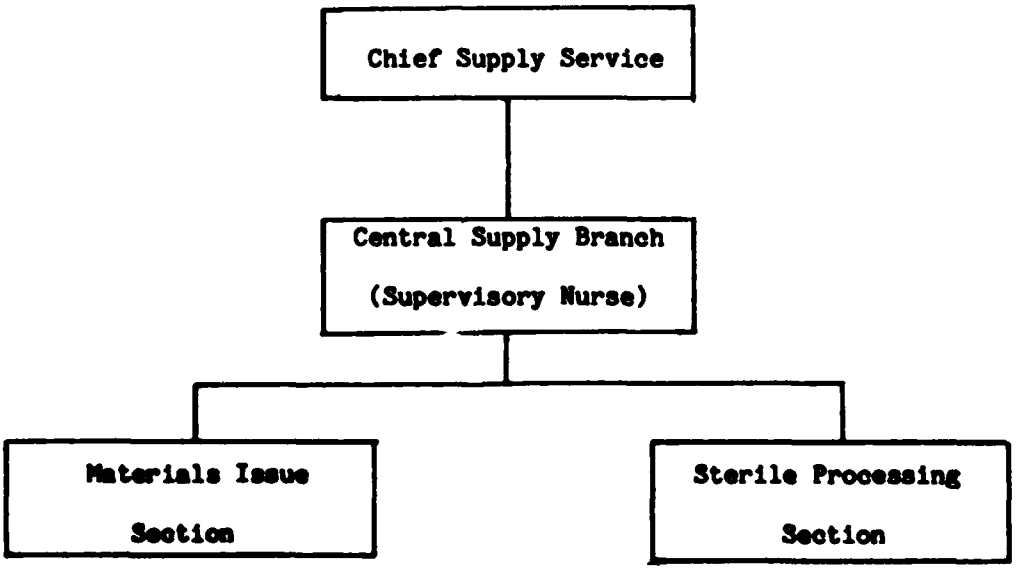


Exhibit 3

It is felt that the supervisory nurse in charge of the Central

Supply branch answer directly to the Chief, Supply Service. The support required to this branch and the high level of interface with other NRMC elements will require considerable communication and guidance that only the chief of service can provide.

The considerable amount of technical stock fund and inventory management functions of the central supply branch, primarily the materials issue section, also necessitate considerable direction from the warehouse foreman. Perhaps it is conceivable that CSR come directly under this individual, but because of the communications and professional criteria of the branch, it does not seem feasible.

The final and most difficult phase of the transition of CSR is the change to a stock fund operation. Prior contact with the Naval Supply Center, Oakland, California, indicated the single most difficulty of this changeover is the administrative support. Either a "shop store" or a "retail service" storeroom could be established depending on the charge system desired. With proper data processing support, the shop store concept offers the greatest advantage because issues are directly interfaced with operating budgets and inventory systems.

It is suggested that the Naval Supply Center be requested to advise on exact details and requirements.

A timetable for implementation is not warranted at this time because of the need for command direction regarding the change and other support required. It is, however, not unlikely that basic organizational and personnel changes be called for immediately. Details of the stock fund transition could be worked out at a later date. It is not optimistic to expect a complete changeover by 1 October 1979, the beginning of the new fiscal year.

VII.

Footnotes

1. W. P. Arentzen, VADM MC USN, Surgeon General of the Navy, to W. M. Lonergan, RADM MC USN, Commanding Officer, NRMC, Oakland, ltr. of 2 February 1978

VIII. AREAS FOR FURTHER STUDY

Investigation into the CSR at NRMC opened several potential areas for study.

The project has concentrated on the internal operations of CSR without investigation of the distribution function. In the civilian sector there has been considerable emphasis on distribution activities as a tool to improve service and reduce the efforts of nursing personnel in materials management. Methods used include an exchange cart system, case cart system, automated delivery systems, and complete supply management of ward material requirements. At the present time the exchange cart system and/or a par level materials concept seems applicable to present structure. Future investigations into this phase of central supply management may prove to be rewarding.

Other investigations seem warranted in the area of greater centralization of the central supply function. This could be done to centralize the sterilization function on all materials functions within the hospital.

IX. CONCLUSION

The project has sought to evaluate the central sterilization room (CSR) functions and support at the Naval Regional Medical Center, Oakland, California. The current organizational support for CSR activities is the Pharmacy Service; however, a number of factors over the last decade have precipitated the need for a change.

This study has investigated those factors in detail revealing that the flow of materials has changed dramatically since the introduction of disposable goods. The impact has been a high dollar value of inventory and distribution without a formal means of control and accountability for materials. The situation is not uncommon and in fact, all federal facilities researched had similar procedures. On the other hand, the civilian sector has implemented significant and innovative methods of charging for materials issued.

Staffing criteria and personnel requirements of CSR also were reviewed. A high level of turnover in CSR employees has been evident for some time primarily because of salary discrepancies in CSR positions at this Center and the civilian/blue collar market.

Based on the analysis, several alternatives were explored as an improvement to the current system. A final set of recommendations were presented as a new system for CSR and included modifications to

civilian position descriptions, minor facility alterations, and most importantly, a change in organizational support of CSR to the Supply Service. A significant direction for this change was the change of the CSR inventory from operating medical stock to a stock fund managed system. This system would provide a revolving fund for inventory management and would not tie command funds in CSR inventory. The plan would also enable further development of additional pharmacy and subsistance items to the same stock fund management.

Implementation of the changes in the central supply functions at NRMC, Oakland, is exceptionally feasible and can be effected with little difficulty provided there is strong command support. This activity has an opportunity to lead the way with an innovative and responsive materials issue system. The potential for a distribution system that accounts for all issues, provides expense data to users, and interfaces with inventory management is well within reach. A change in the current system will provide considerable benefit to this Center in improved control, reduced expense in operating funds, and management information necessary for departmental monitoring of all expenses.

Once effected, the system has wide-range application to other areas of materials control with NRMC, Oakland, and potential exists for similar systems at other Navy Medical Department activities.

Bibliography

Articles

Bruch, Carl W. "Are Your Disposables Safe?", Hospitals, Vol. 45 No. 17, September 1, 1971

Danielson, Neal E. "Central Service Records Keeping of Materials at Wesley Medical Center Allows Timely Accurate Recall", Hospital Topics, Vol. 56, No. 1, Jan/Feb 1978

Davis, E. L. "Central Service, A Department In Transition", Hospital Topics, Vol. 43, No. 4, August 1965

Ennera, D. W. "Administration Tells Necessary Qualities in Effective Central Service Supervision", Hospital Topics, Vol. 52, No. 1, January 1974

Fahlberg, Willson J. "Operation of a Modern Central Processing Department 'CPD'", Hospital Topics, Vol. 55, No. 5, Nov/Dec 1977

Griggs, Wallace "Computerized C. S. Charges", Hospital Topics, Vol. 50, No. 3, March 1972

Halpin, John "Hospitals Seek Rx For Chronic Space Ills As Budget Squeeze Filing and Storage Capabilities", Hospital Topics, Vol. 56, No. 2, Mar/Apr 1978

Heller, W. M., "Future Role of the Hospital Pharmacist -- In Manufacturing and Control", American Journal of Hospital Pharmacists, Vol. 24, April 1967

Housley, C "Coping With Product Changes", Dimensions in Health Services, Vol. 55, No. 5, May 18, 1978

"8 Per Cent Inflation for Hospital Supplies", Hospital Purchasing Management, Vol. 3, No. 9, September 1978

Johnson, Hazel W "Growing Hospital Problems: Reuse of Disposables Packaging", Hospital Topics, Vol. 52, No. 6, June 1974

Jorgensen, Blanche "Moving a Central Service Department with Minimal Disturbance of Function", Hospital Topics, Vol. 51, No. 11, November 1973

Kutilik, R. J., Calamari, F. A., Rhoden, J. F. "An Inexpensive Model for a Materials Management System", Hospital Topics, Vol. 55, No. 5, Sept/Oct 1977

Landis, W. K. "What One Administration Expects of the Central Service Manager", Hospital Topics, Vol. 51, No. 9, September 1973

Lech, Marie M. "How to Achieve Your Objective in C.S.",Hospital Topics, Vol. 52, No. 8, Sep/Oct 1974, Hospital Topics, Vol. 52, No. 9, Nov/Dec 1974

Maronde, Robert F. "Pharmacists' Role in Health Care", American Journal of Pharmaceutical Education, Vol. 41, No. 5, December 1977

Materials Management/Purchasing, "National Conference in Disposables" Hospitals, Vol. 45, No. 13, July 16, 1971

Meyer, William Dale "Reorganization of Central Service", Hospital Topics, Vol. 51, No. 6, June 1973

Mitchell, Richard C. "Hospitalwide Inventory Turnover Gives Hospitals Positive Results", Hospitals, Vol. 52, No. 13, July 1, 1978

Mosesman, Barry "Steps in Planning a Central Processing Department", Hospital Progress, Vol. 52, No. 4, April 1971

Ochsnen, Harvey A. "Legal Implications of the C.S. Operation", Hospital Topics, Vol. 53, No. 4, July/Aug 1975

Olson, Myron L. "Materials Mangement", Hospitals, Vol. 46, No. 7, April 1, 1972

Pritchett, Thomas W. "The Key to Success in Materials Management", Hospital Topics, Vol. 53, No. 2, Mar/Apr 1975

Reilly, Mary E. "C. S. Questions and Answers", Hospital Topics, Vol. 56, No. 3, May/June 1978

Reilly, Mary E. "Central Service: Q's and A's", Hospital Topics, Vol. 56, No. 6, Nov/Dec 1978

Schutta, Alvin M. and Daly, Dennis S. "The Surgical Cart System, Does It Belong In Your Hospital?". Hospital Topics, Vol. 56, No. 1, Jan/Feb 1978

"Trends in Materials Management Point to Automation, Disposables", Hospital Topics, Vol. 49, No. 7, July 1971

Wastchak, David "How One CSR Converted to an SPD System", Hospital Topics, Vol. 49, No. 6, June 1971

Books

American Hospital Association, Cost Finding and Rate Setting for Hospitals, American Hospital Association, 1968

American Hospital Association, Hospital Engineering Handbook, Chicago: American Hospital Association, 1974

American Hospital Association, Readings in Hospital Central Service, American Hospital Association, Chicago, ILL, 1975

American Hospital Association/National Safety Council, Safety Guide For Health Care Institutions, Chicago, American Hospital Association, 1972

The Central Service Technician: Training and Supervision, International Association of Hospital Central Service Management, Chicago: Clissold Books, Inc., 1969

Candy, K. R. and Ball, William, ed., Infection Control in Health Care Facilities, Baltimore, MD: University Park Press, 1977

Department of the Army, Centralized Material Service/Section, Technical Manual, TM 8-275, 1974

Department of Health, Education, and Welfare, A Manual for Hospital Central Services, Pubn. N. 77-4013, 1977

Perkins, John J., Principles and Methods of Sterilization in Health Sciences, Springfield, IL: Charles C. Thomas, Pub., 1969

Rubbs, Sydney D. and Gardner, Joan F., A Review of Sterilization and Disinfection, Chicago: Year Book Medical Publishers, Inc., 1965

Stanley, Gary Lee, Hospital Central Supply Policy and Procedure Manual, Herrin, IL, Hospital and Physician Consulting Service, Inc., 1977

Weston, J. F., and Brigham, E. F., Managerial Finance, 4 ed., Hinsdale, IL: Dryden Press, 1972

Other

American Hospital Association, Guidelines for the Hospital Central Service Department, AHA Booklet, No. 2593, Chicago, 1978

Health Care Finance Administration, Manual for the System of Hospital Uniform Reporting, Test Draft, 1978

Department of Defense, Uniform Chart of Account for Military Medical Treatment Facilities, Test Draft with changes, 1 August 1977

Department of the Navy, Naval Facilities Engineering Command, NAVFAC DM-33, Design Manual: Hospitals and Medical Facilities, July 1963

Department of the Navy, Navy Fleet Materials Support Office, Instruction 4400-12H, Management of Navy Supply Systems Materials 28 April 1977

Joint Commission on Accreditation of Hospitals, Accreditation Manual For Hospitals, Chicago: JCAH, 1979

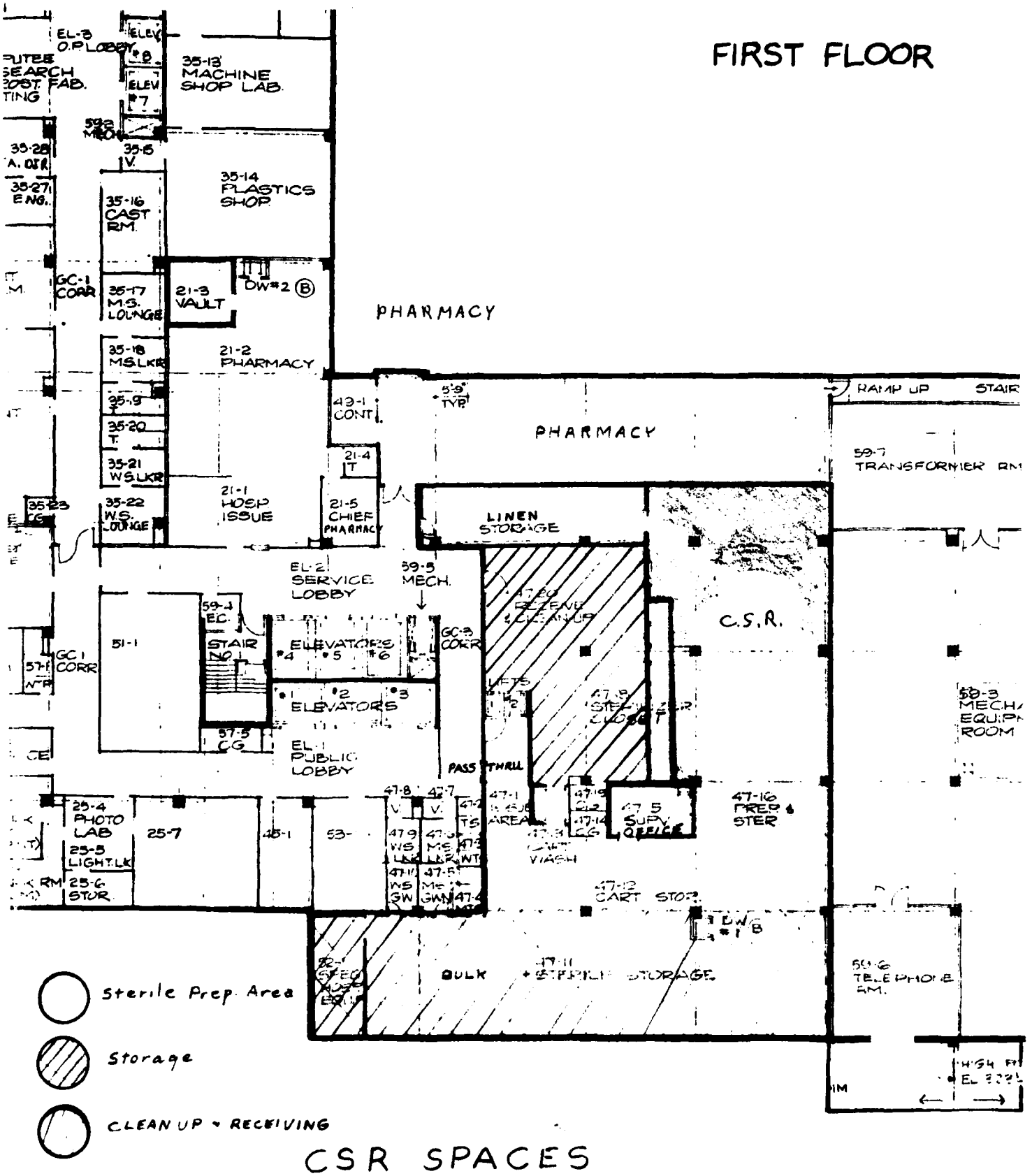
Veterals Administration, Research Study Report, A Study of Design Criteria for Air Conditioning in Existing Veterans Administration Hospitals, Washington, D.C. 1971

APPENDIX 1

Facilities

Floor Plan of Present CSR Spaces

Recommended Alterations with Drawings


FIRST FLOOR
EL-3 O.P. LOBBY
35-13 MACHINE SHOP LAB.
35-14 PLASTICS SHOP
35-16 CAST RM.
35-17 M.S. LOUNGE
21-3 VAULT
DW#2 (B)
PHARMACY
35-18 M.S. LKR.
21-2 PHARMACY
35-19
35-20 T.
35-21 W.S. LKR.
35-22 W.S. LOUNGE
21-1 HOSP. ISSUE
21-5 CHIEF PHARMACY
43-1 CONT.
5-9 TYP.
PHARMACY
21-4 T.
RAMP UP
STAIR
59-7 TRANSFORMER RM.
LINEN STORAGE
C.S.R.
EL-2 SERVICE LOBBY
59-5 MECH.
59-1 EC.
STAIR NO.
ELEVATORS #4 #5 #6
GC-3 CORR.
GC-1 CORR.
51-1
ELEVATORS #1 #2 #3
57-5 CG
EL-1 PUBLIC LOBBY
PASS THRU
LIFTS
47-9 STERILE CLOSET
47-16 PREP & STER.
59-3 MECH. EQUIP. ROOM
25-4 PHOTO LAB
25-5 LIGHT LK.
25-6 STOR.
25-7
45-1
53-
47-9 W.S. LKR.
47-10 M.S. LKR.
47-11 W.S. GWN.
47-5 M.S. GWN.
47-5 SUPV. OFFICE
47-12 CART STOR.
DW #1 (B)
BULK STERILE STORAGE
59-6 TELEPHONE RM.
Sterile Prep. Area
Storage
CLEAN UP & RECEIVING

CSR SPACES

WORK REQUEST (MAINTENANCE MANAGEMENT)

NAVFAC 9.11014/20 (REV. 2-68) S/N-0105-002-7510
Supersedes NAVDOCKS 2351

(PW Department see Instructions on NAVFAC M-011)

Requestor see Instructions on Reverse Side

PART I—REQUEST (Filled out by Requestor)

1 FROM
LT M. P. Lawson, MSC, USN, Administrative Resident (CSR Project)

2 REQUEST NO

3 TO
Public Works

4 DATE OF REQUEST
15 MAR 1979

5 REQUEST FOR
[X] COST ESTIMATE [ ] PERFORMANCE OF WORK

5a REQUEST WORK START

6 FOR FURTHER INFORMATION CALL
LT M. P. Lawson - Ext. 2112
LTJG D. Angelier - Ext. 2467

7 SKETCH PLAN ATTACHED
[ ] YES [ ] NO

8 DESCRIPTION OF WORK AND JUSTIFICATION (*Including location, type, size, quantity, etc.*)

Request cost estimates for the following projects in the CSR spaces in Bldg. 500. See attached sketch for locations. These projects are proposed in conjunction with reorganization of the Central Supply Room under the Supply Service and to provide both security of stock fund materials and segregated sterile material processing as required by JCAH. Due to probable funding limitations during initial implementation it is requested that each project be estimated separately.

FUNDS CHARGEABLE

10 SIGNATURE (Requesting Official)
M. P. LAWSON, LT, MSC, USN
Administrative Officer

PART II—COST ESTIMATE
(Filled out by Maintenance Control Division if estimate requested)

11

12 ESTIMATE NO

13 COST ESTIMATE	
Labor	$
Material	$
Overhead and or Surcharge	$
Equipment Rental Usage	$
Contingency	$
TOTAL	$

14. SKETCH/PLAN ATTACHED
[ ] YES [ ] NO

15.
[ ] APPROVED. PROGRAMMING TO START IN
[ ] APPROVED. BASED ON PRESENT WORKLOAD, THIS JOB CAN BE PROGRAMMED TO START IN
AUTHORIZED BY 25TH OF AND FUNDS ARE MADE AVAILABLE
[ ] DISAPPROVED. (*See Reverse Side*)

16. SIGNATURE

17. DATE

PART III—ACTION (Filled out by Requestor)

18

18a AUTHORIZATION TO PROCEED IS ATTACHED (*Check one if other than PW funds are involved*)
[ ] NAVCOMPT 140 [ ] OTHER

SIGNATURE

20 WORK REQUESTED
[ ] HAS BEEN CANCELLED [ ] HAS BEEN DEFERRED [ ] WILL BE RESCHEDULED FOR

22 DATE

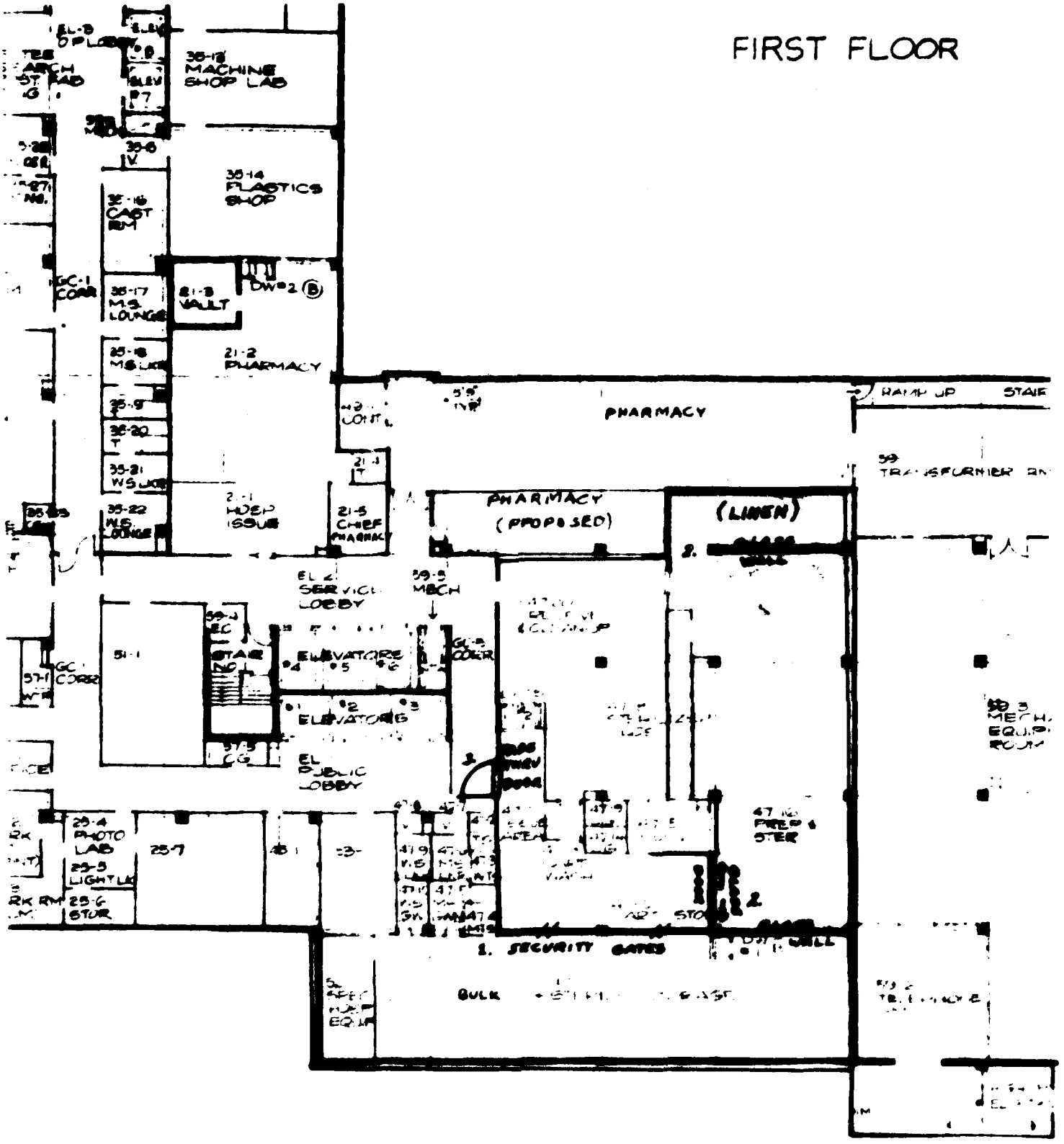
1. Procurement and installation of expanding metal security gates in CSR. Security of stock fund storage is required by Naval Supply regulations.

2. Procurement, fabrication, and installation of glass walls in sterile materials processing section of CSR. Separation of this section is required by JCAH to prevent contamination and lint and dust particles from [illegible].

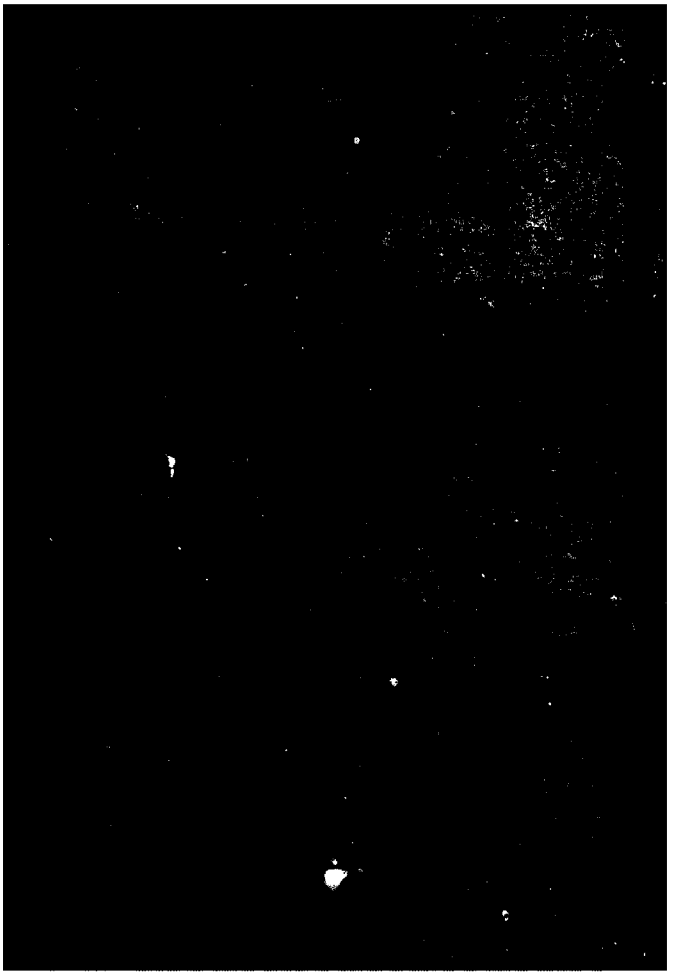
3. Removal of service pass through window and installation of large single or double doors leading into CSR. The new stock fund operation will require continuous delivery of bulk materials on pallets. To reduce materials handling effort the ability to move pallets directly into stock fund spaces would facilitate operations.

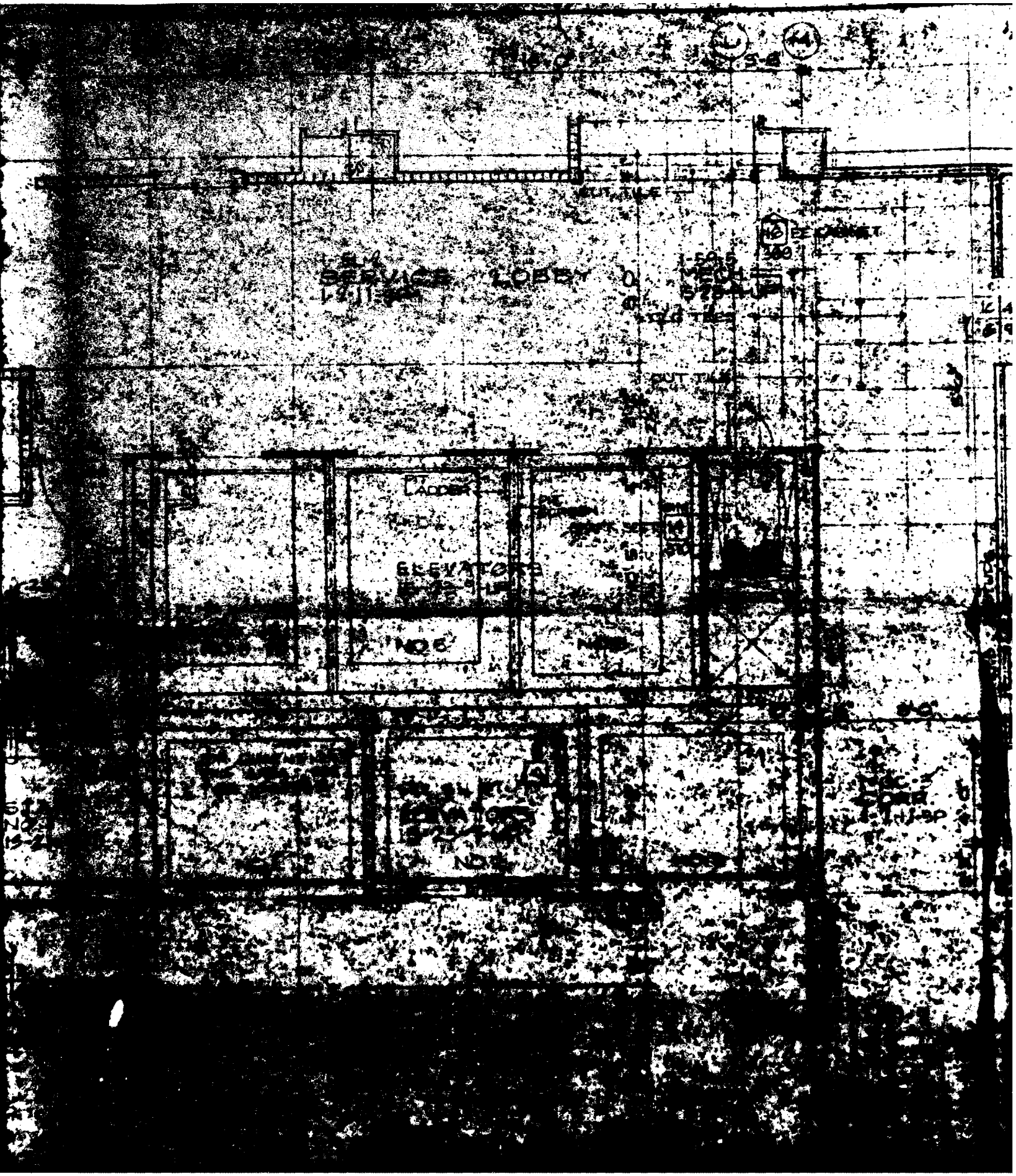
4. Removal of conveyor track near CSR Lift #2. This system is no longer functional and the company does not desire to repair. Removal of these tracks will facilitate access to CSR spaces with carts.

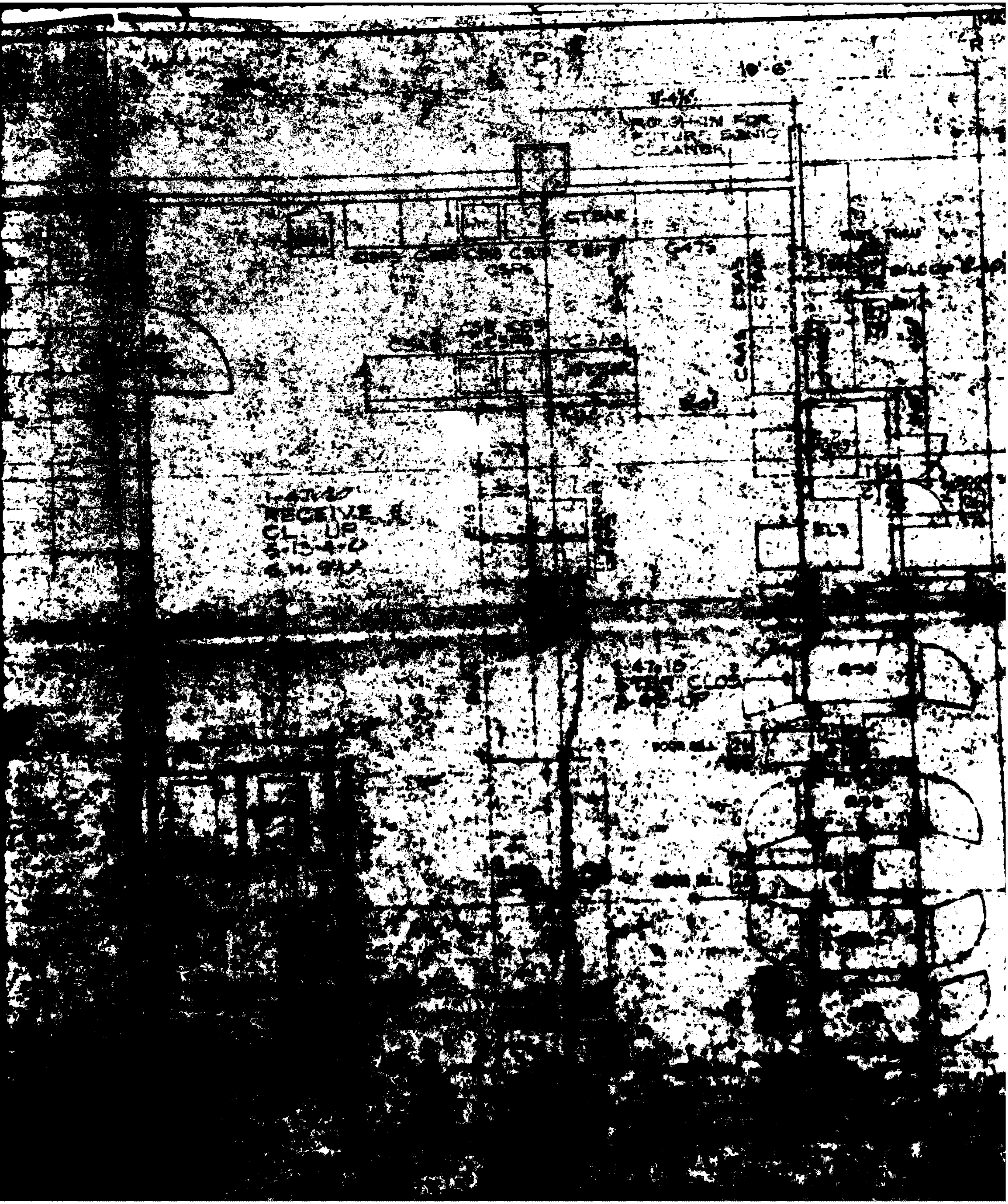
FIRST FLOOR

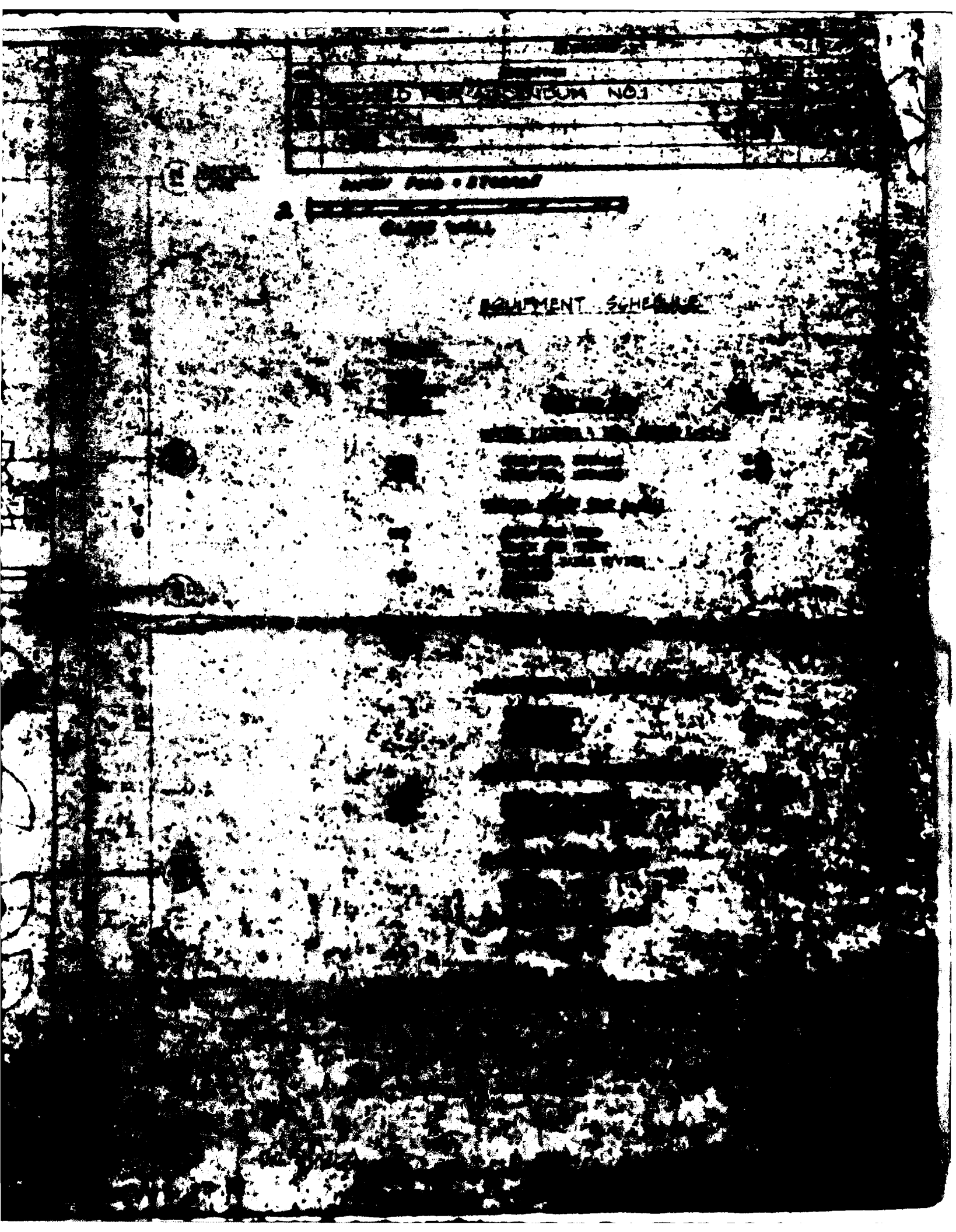


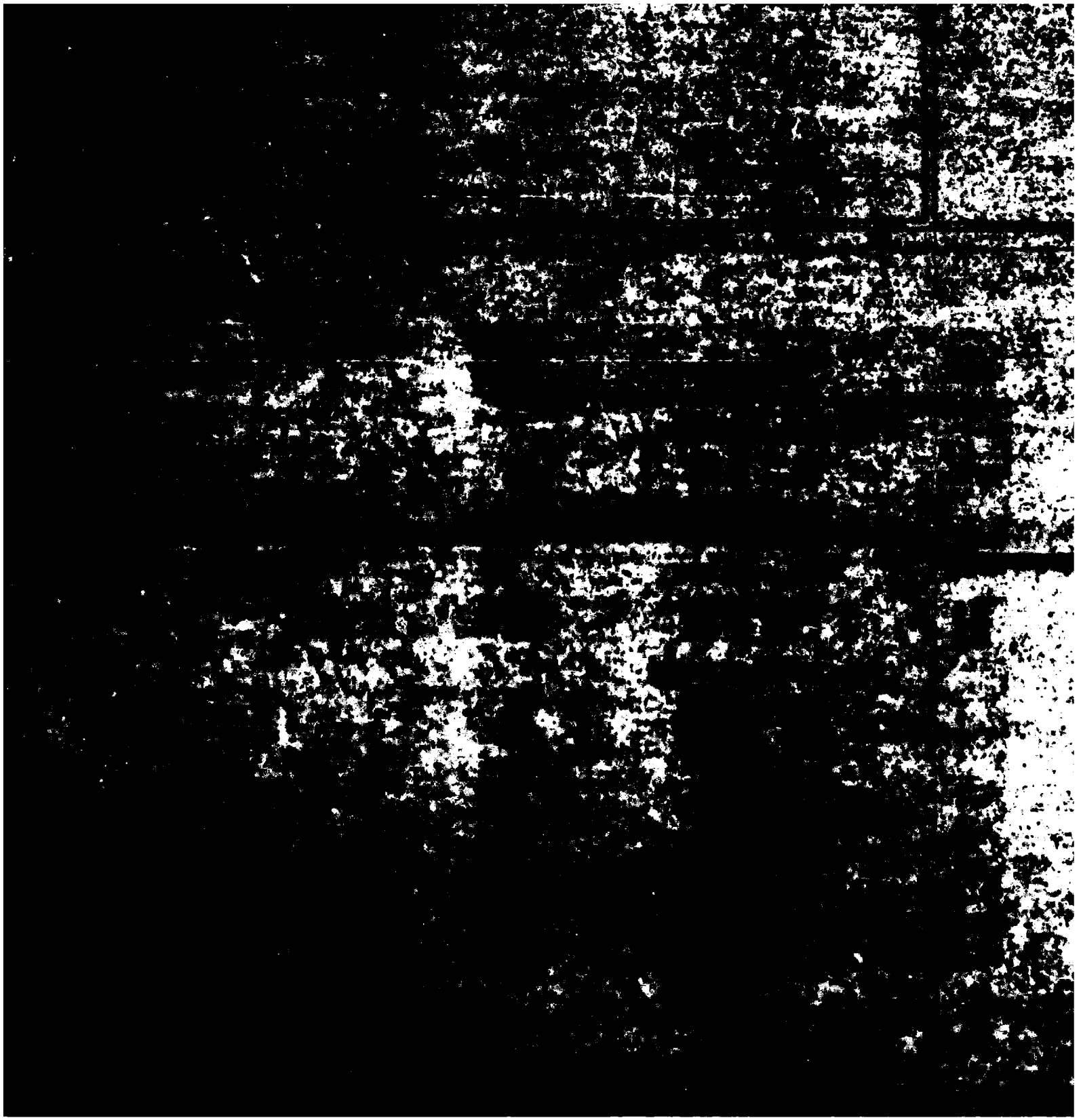
CSR Alterations

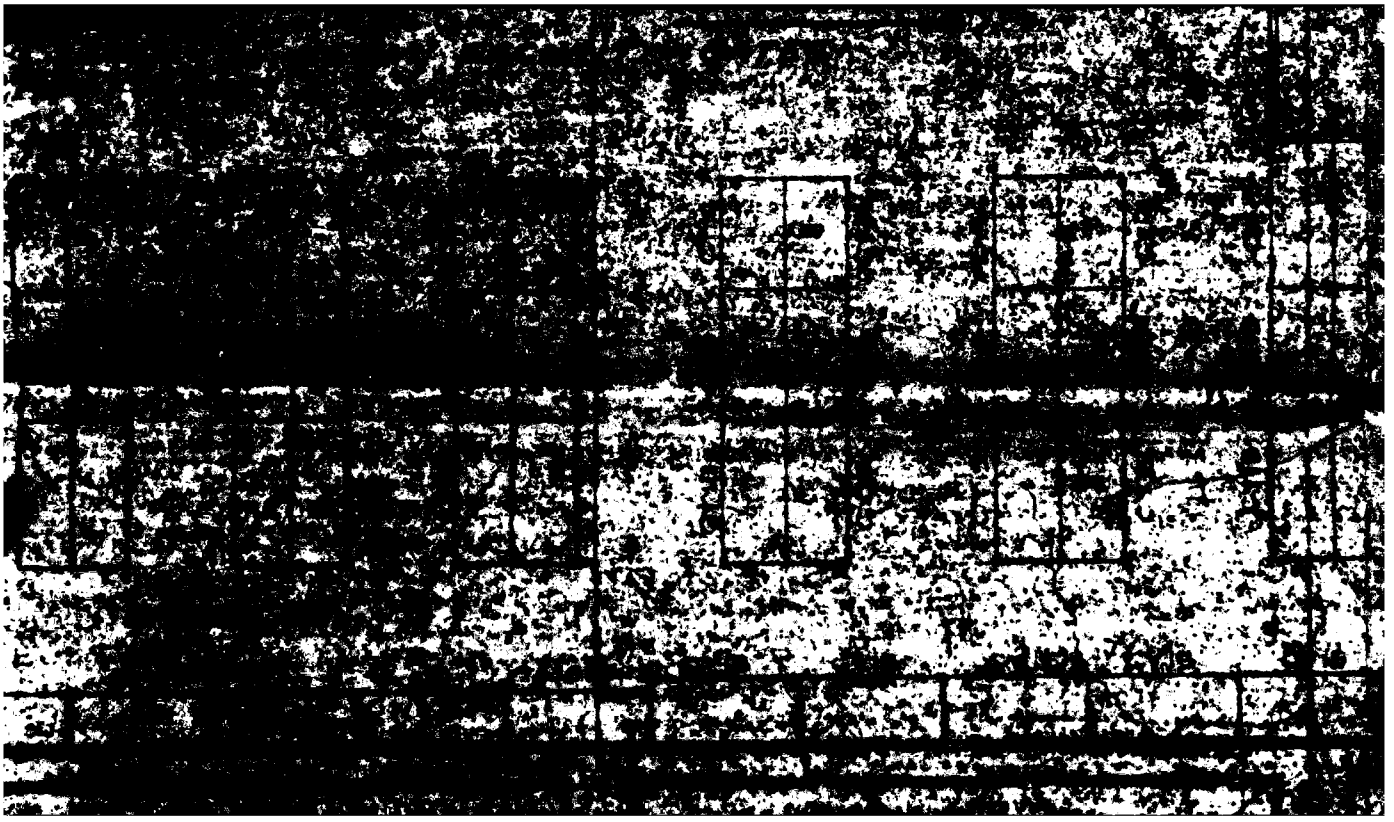


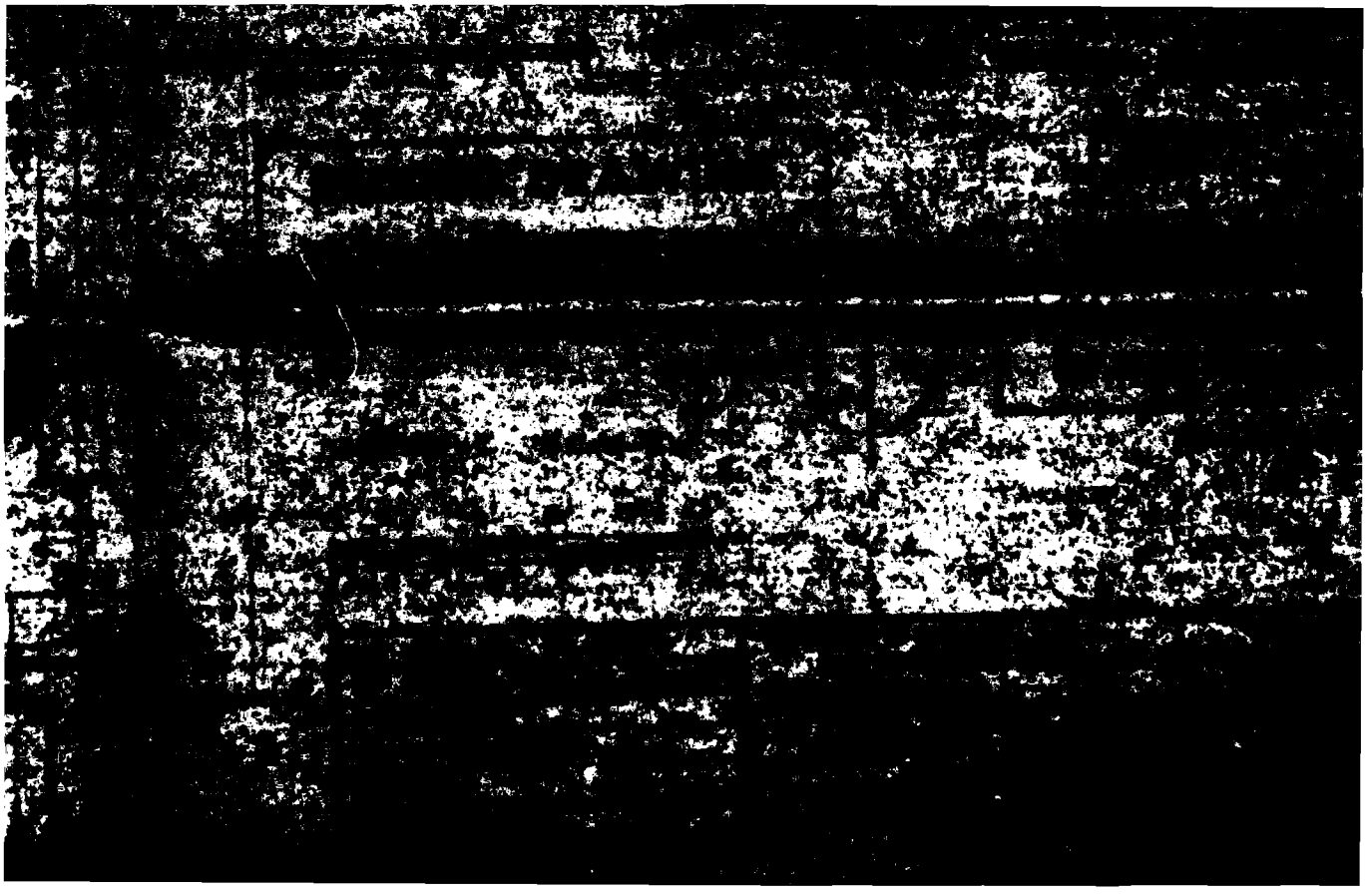

SERVICE
LOBBY
PIT LADDER
ELEVATORS
NO 6


10'-6"
RECEIVE &
CL. UP









APPENDIX 2

Personnel Data

Current CSR Employee Distribution

Current Position Description of CSR Personnel

Wage Grade Classification Survey

Proposed Position Description of CSR Personnel

Financial Impact of Personnel Changes

Current CSR Employee Distribution

Civilian

1	GS-9	Supervisory Nurse
1	GS-5	Supervisory Medical Aide (Issue Supervisor)
1	GS-4	Medical Aide (Shift Supervisor)
4	GS-3	Medical Aide (General Duties)
2	GS-2	Medical Aide (General Duties)
9		

Military

1	(O-2)	LTJG MSC (Pharmacist)		Departmental Coordination
1	(E-4)	HM3	Hospital Corpsman	General Duties
2				

Major Duties. SUPERVISING NURSE GS-9

Manages the Central Sterilizing Room Branch (CSR).

Assigns, directs, and reviews the work of subordinates of the CSR; plans and carries out the training and development of employees; evaluates employees' work performance; recommends selections, status changes, awards, disciplinary actions and separations.

Plans, schedules, and coordinates work operations; determines material, equipment and facilities needed.

Establishes programs and production goals, priorities, and major work schedules; develops cost and budget analyses or forecasts.

--Provides sterilization services for the Naval Regional Medical Center, Oakland (NRMC, O)

--Stocks pre-sterilized products and intravenous solutions for distribution.

--Maintains special equipment needed for patient care, i.e., GOMCO and Emerson Suction machines; various orthopaedic bed frames, and isolation equipment.

--Administers a constant surveillance of sterile material, equipment, and intravenous solutions to protect the patient from inferior or unreliable products.

--Provides information to staff on location, availability, and cost of medical items.

Effectively supports the NRMC,O Equal Employment Opportunity Affirmative Action Plan. Communicates this support to subordinates and takes positive actions that will motivate and furnish opportunity to minority group personnel and women to participate in training, reassignment, detailing and other actions that prepare for advancement. Exercises objectively in appraisal of all employee's qualifications and performance in selections for inhiring, promotion, and awards.

Factor 1. Knowledge Required By The Position.

Knowledge of established professional nursing principles, practices and procedures required in order to understand and carry out the NRMC,O rules and regulations concerning sterilization and aseptic techniques, in providing sterile goods, instruments and solutions to meet the requirements of the Clinical Services and the Branch Clinics.

Knowledge of the assembly of instrument treatment trays and sets, nursing equipment, and their uses, required for various medical and surgical procedures, to maintain quality control of medical equipment and supplies requisitioned (e.g., Circoelectric and Stryker orthopaedic beds; Harvard syringes pump, Emerson postoperative thoracic pump; tracheotomy tray, syringes, needles, linen and miscellaneous items) in order to protect patient from inferior or unreliable products.

Knowledge of types of sterilization and sterilization techniques.

Knowledge of chemical, mechanical and biological monitoring systems to insure reliability of the sterilization systems.

Factor 2. Supervisory Controls.

The supervisor assigns work in terms of CSR objectives and basic priorities, and is available for consultation in resolving contrversial issues. The nurse independently plans, and manages the CSR operations, selecting approaches and methods used in solving problems. Work performance is reviewed by an examination of interactions with departments served by CSR and the soundness of financial management, and for compliance with established policies and regulations.

Factor 3. Guidelines.

Guidelines include NRMC,O regulations and directives; manufacturers recommendations, JCAH guidelines, and accepted CSR practices. The nurse plays a significant roll in initiating revisions in guidelines for management of CSR, as new knowledge and technical advances evolve.

Factor 4. Complexity.

Provides sterilization services for the Medical Center; stocks and issues presterilized products and intravenous solutions; makes frequent decisions on suitable cleaning and sterilization procedures based on knowledge of the nature of the item processed and the effects of processing. Processing techniques require knowledge of the use of the various instruments, medical supplies procured, processed and issued to insure reliability of the items issued, and in providing continuous development of CSR employees.

Factor 5. Scope and Effect.

The technical expertise provided by the nurse assures the cleanliness and sterility of items used in medical and surgical procedures. Evaluations of the procedures utilized and the quality of work performed ensures the prevention of infection to patients.

Factor 6. Personal Contacts

Personal contacts include the clinical and administrative staff, patients and medical representatives.

Factor 7. Purpose of Contacts.

Contacts provide information concerning the processing, availability and procurement of sterile supplies; and the administration of the budget, maintenance of CSR equipment and spaces; efficient management of personnel.

Factor 8. Physical Demands.

The work requires some physical exertion such as standing, bending, reaching, lifting in loading/unloading hot autoclave carts.

Factor 9. Work Environment.

The work involves moderate risks or discomfprts which require special safety precautions, e.g., working with contaminated materials, toxic gases. Wears surgical greens in restricted areas of CSR.

GS-2-3-4-5 POSITIONS WITHIN CSR

Variations occur only in level of supervision required or provided.

I. Introduction

Position is located in the Central Sterilizing Room, Regional Pharmacy Department, NRMC Oakland. Incumbent performs the full range of duties necessary to receive, sterilize, assemble and issue equipment and sterile supplies in the CSR.

II. Major Duties and Responsibilities

A. Receiving Area

1. Incumbent will receive contaminated items from wards and clinics, disassemble them if necessary, and clean them using proper technique. The items will then be prepared for disinfection or sterilization as appropriate.

2. Incumbent will maintain the CSR equipment. It will be cleaned, checked for proper function, and a location file will be maintained.

B. Issue Area

1. Incumbent will fill emergency requests for sterile supplies from wards, clinics and outpatients.

C. Assembly Area

1. Incumbent will assemble and package items for final sterilization.

D. Training

1. Incumbent will provide on-the-job training and supervision, in assigned areas, to corpsmen unfamiliar with CSR operation.

III. Position Controls

Immediate supervisor is a military pharmacist who exercises general supervision. Incumbent is expected to perform day to day work independently with occasional work direction and work area assignment by a higher level medical aid. A higher level medical aid is available to provide guidance and advice on unusual, complex or nes situations or techniques. Available guidelines include verbal and written manuals and lists, and standard aseptic procedure. Work is evaluated on the basis of quantity and quality of work produced.

IV. Qualifications

A. Incumbent must have a thorough knowledge of aseptic techniques.

B. Incumbent must have knowledge of CSR material, its nomenclature and use.

C. Incumbent must have knowledge concerning the operation and care of standard hospital equipment such as suction machines, Emersons and bed frames.

MATERIALS ISSUE SECTION (CSR)
PROPOSED POSITION DESCRIPTION

LABORER/WAREHOUSEMAN

I. JOB SUMMARY

Position is located in the Central Supply Room Branch, Supply Service, Naval Regional Medical Center, Oakland, California. Incumbent will be required to fill material requests from various wards and clinics, distribute material to all areas of the hospital, and pick up, receive and clean various items of reusuable material and equipment.

II. TYPICAL WORK PERFORMANCE

Incumbent will receive Navy Stock Fund materials from the Main Supply, Bldg. 500, verify description and quantities and stock materials in ready issue (stock fund) storeroom. Incumbent will also shelve reusuable sterilized materials and equipment received from the Sterile Processing Section and Medical Repair. Incumbent will receive orders for materials from clinics and wards, screen them for appropriateness, pull items from stock, place on carts or in bixes, and distribute as required. In addition to distribution function, the position requires pick up of carts and contaminated materials from wards and clinics, return them to CSR, and process them through washers and sterilizers, for delivery to the Sterile Processing Section for re-processing. Incumbent will be responsible for monitoring stockage levels, identifying stock requirements, and informing the Materials Issue Section supervisor of those requirements. Occasionally required to work with warehousement in various supply and warehousemen tasks as assigned. Cleans work areas by sweeping, mopping, dusting and picking up debris.

III. FACTOR STATEMENT

A. Knowledge and skills:

Must be able to read and write, and follow specific oral instructions. Incumbent must have knowledge of CSR materials, nomenclature and uses. Prior experience with supply and ready issue storerooms is desirable.

B. Responsibility:

Works under immediate supervision of a leader warehouseman and under ovarall supervision of a supervisory nurse (GS-9) in charge of CSR. May be routinely assigned to work shift work and work unsupervised.

C. Physical demands:

Required to receive bulk supplies for stock (50 - 75 lbs) and carry for short distances. Also required for movement of supply carts and medical equipment on a routine basis.

D. Hazards and working conditions:

No undue hazards exist as long as safe and correct practices are used in lifting and moving materials. Protective clothing is available and to be worn when handling materials.

MATERIALS ISSUE SECTION SUPERVISOR
PROPOSED POSITION DESCRIPTION

LEADER WAREHOUSEMAN

I. JOB SUMMARY

Position is located in the Materials Issue Section of the Central Supply Room (CSR) Branch of the Supply Service, NRMC Oakland. Incumbent is responsible for supervising employees in ready issue (stock fund) supply operations. Operations include filling daily supply requests from wards and clinics, maintaining adequate stock levels of materials, pick up and cleaning of reusuable materials from clinical elements of the medical center, and supervising distribution of all materials from CSR.

II. TYPICAL WORK PERFORMANCE

Incumbent will supervise daily distribution of materials from CSR and the pick up and cleaning of reusable goods prior to providing thosee items to the Sterile Processing Branch. Position requires continuous liaison with leader warehouseman in Main Supply to maintain adequate supply levels. Incumbent will supervise the storage of goods in ready issue area, perform inventories, etc. Individual must also deal with various clinical personnel to access requirements, provide materials information and similar data. Incumbent will also be required to supervise the take-down and re-assembly of medical equipment as required for cleaning and preparation prior to reissue. Incumbent will provide on-the-job training to employees in the area of ready issue (CSR) operations.

III. FACTOR STATEMENT

A. Knowledge and skills:

Incumbent must possess a knowledge of warehouse procedures particularly stock fund (ready issue) operations. A knowledge of medical materials nomenclature and use is essential. Ability to communicate effectively with clinical personnel is required.

B. Responsibility:

Works under the technical direction of the warehouse foreman for stock fund management and under overall supervision of a supervisour nurse (GS-9) in charge of CSR. Individual will have operational responsibility for CSR Materials Issue Section.

C. Hazards and working conditions:

No undue hazards exist as long as safe and correct practices are used in lifting and moving material. Protective clothing is available and will be worn when handling materials.

COMPENSATION COMPARISON BETWEEN CURRENT PERSONNEL EXPENSES AND PROPOSED POSITION CLASSIFICATION CHANGE

Current (FY 79)

(1)	GS-9	$15,920	
(1)	GS-5	13,307	
(1)	GS-4	12,208	
(4)	GS-3	35,423	
(2)	GS-2	14,844	(incl. 2 vacant positions)

No. FTE's 9 TOTAL PAYROLL $91,702 *

*Adjusted for appropriate step increases

Proposed

(1)	GS-9	$15,920
(1)	GS-5	13,307
(1)	GS-4	12,208
(1)	WL-2	13,898
(5)	WG-2	63,145

No. FTE's 9 TOTAL PAYROLL $118,477

Increase due to change $26,775

Some additional increases may be required because of individual employees and civil service time in service requirements.

APPENDIX 3

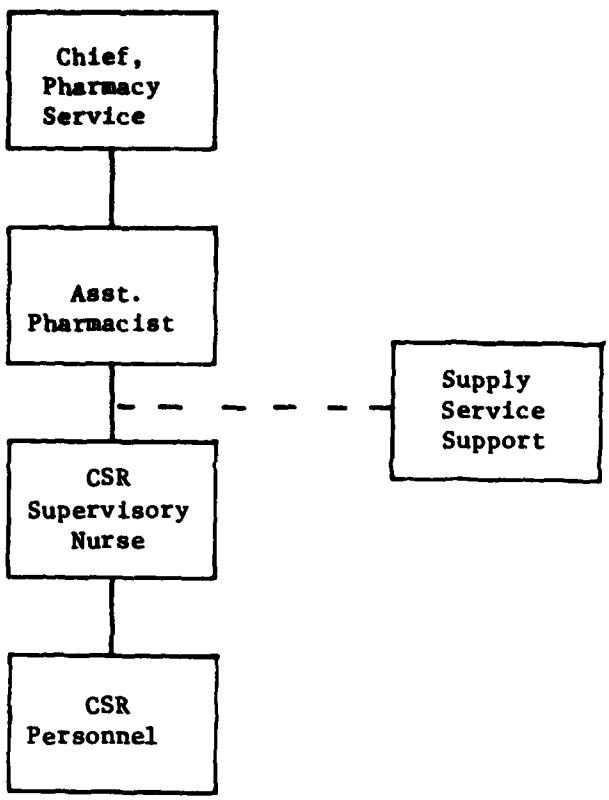
<u>CSR Operations</u>

Current Organization Chart (CSR)

Work Flow Chart of Present Operations

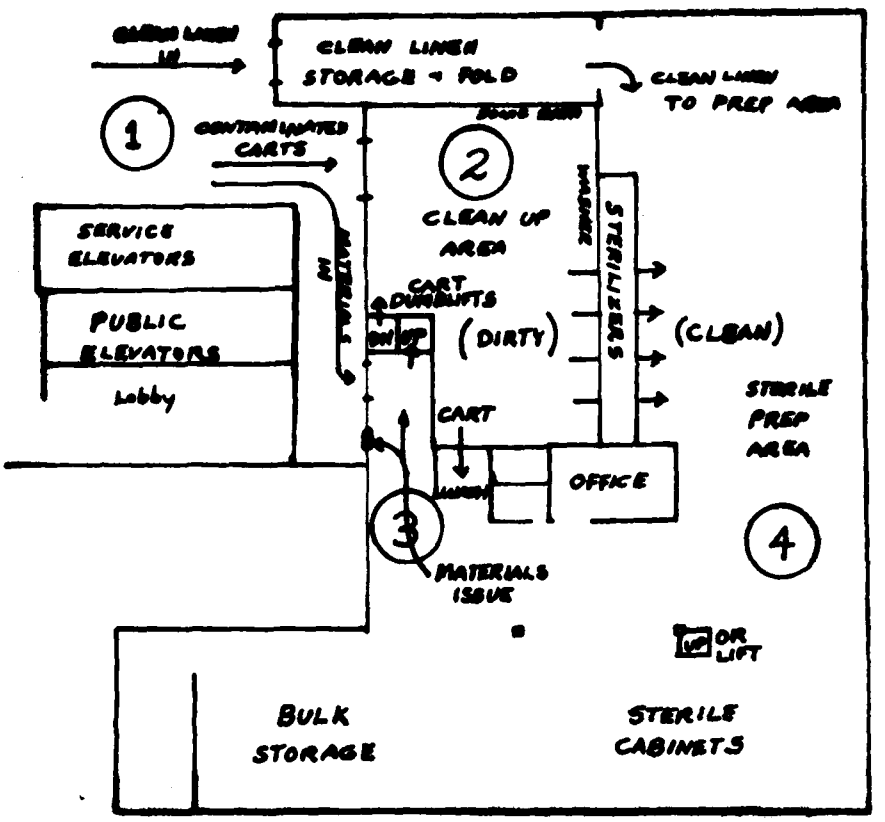
Proposed Organization Chart (CSR)

CURRENT CSR ORGANIZATION CHART



CSR FLOW

All personnel accomplish each phase of operations without a clear division of labor.



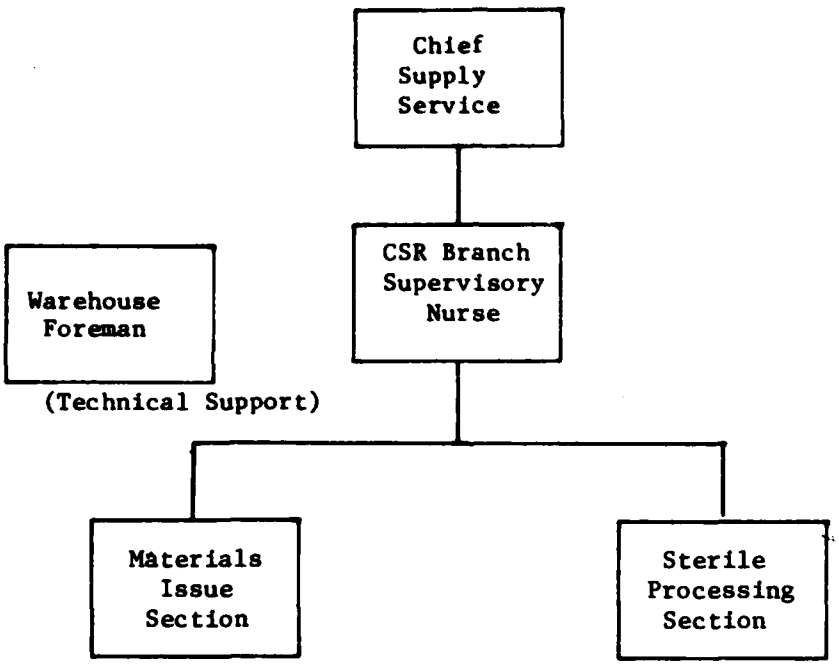
(1) All material, linen, and other materials such as equipment is received through service elevators.

(2) Contaminated carts received through elevators and dumblift to service area on floors.

(3) Materials issued via elevators and dumblift

(4) Preparation area where kits a.d linen packs are made.

PROPOSED CSR ORGANIZATION CHART



FINANCIAL IMPACT SUMMARY OF PROPOSED CSR CHANGES

	Current	Proposed	Affect on Operating Expense	
Personnel	91,702	118,477	26,775	Increase
Annual Inventory Exp (Est.)	12,000	--	12,000	Decrease
Capital Invent. [1]	50,000	--	50,000	Decrease
Facility Alterations [1]	--	15,000	15,000	Increase
		Net Change	$20,225	Decrease in Operating Expense

1 Capital Inventory reimbursement from stock fund and alteration expenses are one time only.

APPENDIX 4